THE BUILDER

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"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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DEVELOPMENT IN THE COUNTRYSIDE

DEPARTMENTAL Committees to inquire into life's activities are so numerous that, on a casual view, it might seem impossible to add usefully to their number. That such a view is mistaken is clear from the setting up by Lord Reith, after consultation with the Minister of Agriculture, of a Committee on Building and other Constructional Development in Country Areas, under the chairmanship of Lord Justice Scott, to consider the development of the countryside and to make recommendations as to the guiding principles upon which a proper land utilisation policy could be based.

The names of the members of the Committee are given on page 390, and the first thing one notices is the absence of any special representative of planning, architecture, surveying or building, though some of these activities are indirectly represented in the person of one of the Committee's joint secretaries. It is clear from the terms of reference, however—

> To consider the conditions which should govern building and other constructional development in country areas consistently with the maintenance of agriculture, and in particular the factors affecting the location of industry, having regard to economic operation, part-time and seasonal employment, the well-being of rural communities, and the preservation of rural amenities,

that the questions to be considered are those of broad principle, though we cannot help thinking that the Committee's deliberations would be assisted by the presence of at least one member familiar with the technical aspects of planning, design and construction.

The new Committee, of course, arises out of the Government's decision to set up at some future date a Central Planning Authority to direct physical reconstruction in town and country at the end of the war. Already events are foreshadowing the shape of things to come. It will be remembered that the Royal Commission on the Distribution of Industrial Population (the Barlow Commission) recommended the decentralisation of industry from congested urban areas; already the war has put this into effect to some considerable extent.

If decentralisation is to become an accepted principle in urban development—and the need is surely clear not only because of the normal disadvantages of peripheral expansion of existing towns but because of the vulnerable targets large aggregations of human activity must present to the bombing aeroplane—then the problem has at least three main features. These are: (1) the possibility of making the new war-time factory areas the nuclei of new towns; (2) the creation of new satellite towns in the virgin countryside; and (3) the effect of either or both of these courses upon agriculture.

The last consideration is perhaps the most important of all, for as a result of painful experience we have now realised the vital necessity to the country of a strong and healthy agricultural industry. New industries in the countryside which enter into competition with agriculture in the labour market must therefore be avoided. The kind of industry which has a proper place in the country is one which will preserve the balance of country life and foster the well-being of rural communities. If any of the hastily built and perhaps not too conveniently sited war-time factories are found not to adapt themselves to these requirements, then it would clearly be better to scrap them than to incur the great extra expense involved in forming in connection with them all the requisites of social life—the permanent housing, the shopping centre, the cultural, recreational and other facilities.

The new satellite town may well provide the best solution of the problem, for by beginning anew, unfettered by any question of existing factory buildings, it should be possible not only to relate the satellite properly to its major body but to plan for the setting up of the type of industry best suited to the local environment. The difficulties of siting are admittedly formidable, and when they have been satisfactorily overcome there will still be the problem of persuading industry to settle in the places allotted to it. Clearly from the very first the co-operation and good will of industry must be secured, which perhaps accounts for the precise composition of the Committee just set up.

But the labours of the Committee will not be confined merely to the question of industrial development in the countryside. Undesirable scattered building will have to be considered and dealt with. It is important to remember the smallness of our island in proportion to the great population which it has to contain. Careful planning policy and the co-operation of local authorities and individuals in carrying it out are imperative necessities if the island is not to become a jumble of buildings with green patches in between. Once agricultural land has been taken over for building the damage is done so far as agriculture is concerned. Some control of building development in the interests of agriculture and of the natural amenities is therefore clearly necessary. Domestic buildings in particular should be grouped and placed in association with existing communities wherever possible.

Then there is the question of design. A considerable amount of new building there must be in the country, and there is plenty of evidence to show that a sympathetically designed and properly sited building can enhance natural beauty while an ugly and ill-sited one can spoil it. With all this there should be a careful regard for the preservation of the old villages, the farmsteads and cottages that have survived from other times—the characteristic features of the rural scene. It is on points such as these that an architectural member would be of special help to the Committee, and we trust that one may yet be appointed.

The new Committee has before it a task of vital importance to the future well-being of the country and its inhabitants, and we wish it well in its deliberations. Most of all do we wish that the Ministry of Works may in due course be given some measure of executive authority, for the Departmental pigeon-holes of Whitehall are already sufficiently stuffed with the unimplemented reports and recommendations of Royal Commissions and Departmental Committees long since dead.

NOTES AND NEWS

Preservation in Reconstruction.

In a paper on "The Place of Preservation in a Reconstruction Programme," read before the Architectural Association on Tuesday, Mr. John N. Summerson, A.R.I.B.A. (Deputy Director of the National Buildings Record) outlined a policy for the preservation of old buildings as part of future reconstruction plans. Describing some of the types of buildings which he considered eligible for permanent protection, he placed first the surviving works of the greatest English architects—Wren, Vanbrugh, Adam, Soane and others. He considered that a certain number of lesser buildings should also be protected and that the only practical way of dealing with this matter was to survey the architectural treasures of each district in the country and select buildings and groups of buildings for special consideration. He pointed out that such a survey was already coming into existence, having been initiated by the Ministry of Works and Buildings as a war measure, to ensure protection and salvage in case of bombing.

Some Suggestions for Preservation Policy.

Among the suggestions put forward by Mr. Summerson in the course of his paper were:

Every large town should have a preserved area similar to the Temple or Gray's Inn in London. These "provincial Temples" already exist in the fine Georgian squares and streets to which professional life has naturally gravitated. They should be preserved as units in future planning schemes.

The bombed Wren churches should not, generally speaking, be rebuilt, except in a few cases where a substantial part of the old structures and fittings has survived. But one of the finest of the destroyed churches, St. Bride's, for instance, might be rebuilt as a Wren Museum, containing models of all his churches.

Speaking of the preservation of buildings in the country, Mr. Summerson said that the revival of agriculture as a great and progressive industry would mean that more new and fewer old farm buildings and cottages would be needed. Preservation would have to be strictly selective, and a comprehensive policy based on complete knowledge of the architecture of each area was essential. In conclusion, Mr. Summerson suggested that "solid architectural merit must always be the passport to protection. We must not deceive ourselves into believing that we can preserve the poetical aspects of things by preserving the things themselves. The romantic melancholy of a ruined mill may be captured by a poet or a painter, but never by scheduling the mill as an ancient monument."

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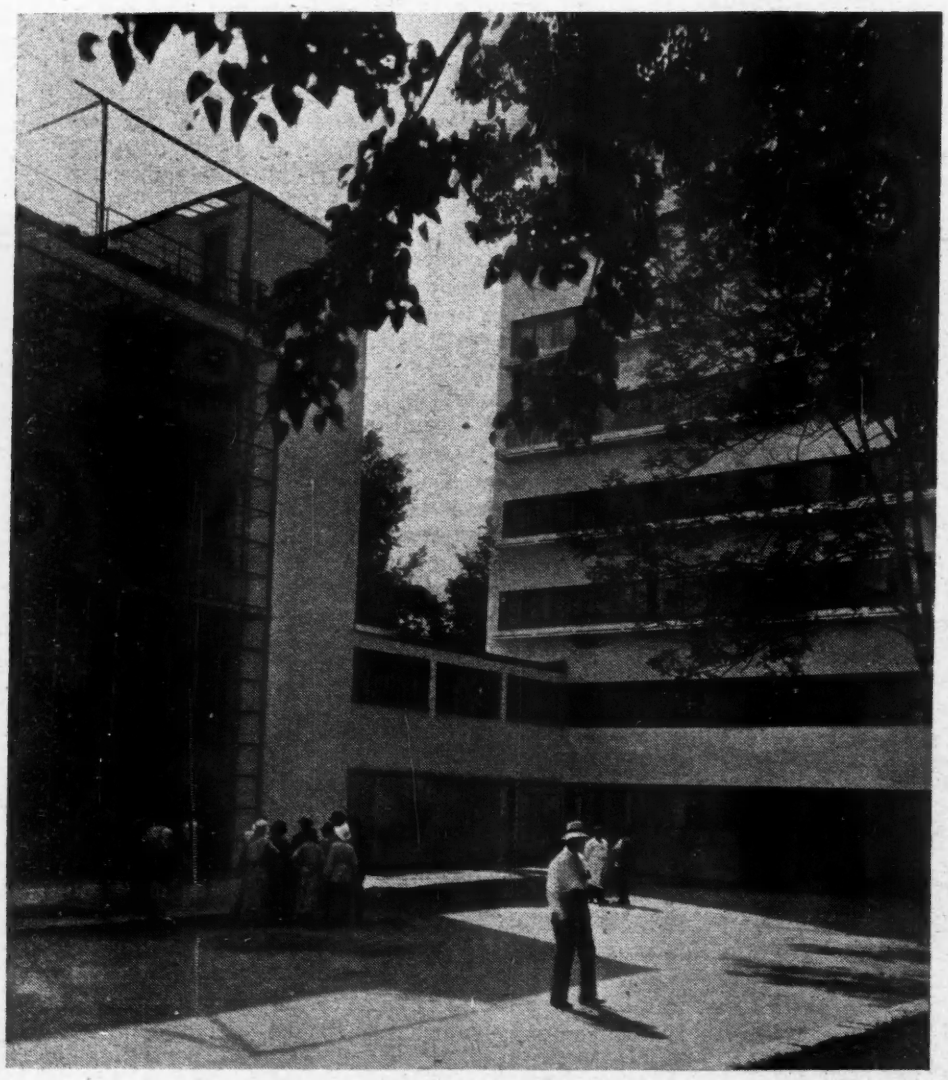


THE MINISTRY OF FINANCE, MOSCOW.
From a photograph taken by Mr. F. R. Yerbury, Hon. A.R.I.B.A., and shown at a recent Exhibition.

L.C.C. and Builders' Emergency Scheme.

London County Council has agreed to co-operate with the Ministry of Works and Buildings in using the London Builders' Emergency Organisation, the object of which is to concentrate building resources on vital war work. The L.C.C. has stipulated that it should be able to submit and agree names with the organisation, and should retain the right in any particular case to invite tenders or quotations from other firms.

Resignation of Director, Building Programmes.

Mr. Paul Gilbert, who has been Director of Building Programmes in the Ministry of Works and Buildings since the creation of the position, has found it necessary to tender his resignation owing to his firm's urgent commitments on work of national importance. Mr. Gilbert will continue to serve on the Central Council Works Committee.

Model of Tower Hill Area.

In view of the interest in post-war planning and construction of London, a model of the layout of the Tower Hill area has been placed on exhibition at the R.I.B.A. premises, 66, Portland-place, W.1. The model, which is loaned by the Tower Hill Improvement Trust, is based on the Bressey-Lutyens Report for London Highway Development, and is accompanied by the respective plan shown on Ordnance survey sheets.

Professional Announcement.

Mr. Stewart McLauchlan, F.R.I.B.A., has joined the firm of Briggs and Thornely, FF.R.I.B.A.; and the practice will be carried on under the title of Briggs, Thornely and McLauchlan, FF.R.I.B.A., at 349, Royal Liver Building, Liverpool, 3.

IN 1916.

From *The Builder*, October 27.

The President of the London Master Builders' Association wrote recently to the *Morning Post* regarding a statement that industrial disputes would often be avoided if men could talk freely to their employers. Mr. Hill says the difficulty does not exist in the building trade in the London district, and we believe, from our experience, that he is right in saying so. . . . We are sure that most difficulties which arise can be solved by fair discussion between man and man, and such discussions usually result in a better understanding than agreements reached after correspondence. The Eastern saying: "Oh, that mine enemy had written a book!" is another way of emphasising the dangers of writing.

THE PUBLIC AND ARCHITECTURE

PROFESSOR RICHARDSON'S DISCOURSE AT THE ROYAL ACADEMY

"The Public and Architecture" was the title of an Autumn Discourse on Town Planning given last week at the Royal Academy by Professor A. E. Richardson, A.R.A. From this we take the following extracts.—EDITOR.

I STAND to-day to give this discourse with mixed feelings of sadness and hope. Sadness for the destruction of the accumulated glories of centuries, hope for the new London that should rise resplendent. My foremost design is to implement the renewed interest in architecture which to-day is almost universal. From the peculiar position of a professorial chair one becomes familiar with all shades of opinion. First and foremost there is the interest of the public; secondly, the erudition of the universities; and lastly, professional direction. It is to be regretted that consensus of opinion on matters of taste lacks the balance which at one time prevailed. It is, however, significant that specious novelty finds few admirers.

Faced with conditions without parallel, we can make common cause and adjust differences of opinion. For this reason we must attach considerable importance to cultured taste, which collectively is wiser than the individual. Architecture is the most aristocratic of the arts, and flourishes at rare intervals. It will not spring up at demand, neither will it attain ideal perfection either by legislation or wishful thinking. On the contrary, it responds to an urge which is national, and when freed from petty vulgarity it reaches the sublime. It is impossible to over-estimate the valuable contributions which architecture has conferred in this country. Scholars are well acquainted with this; the public will not be cajoled into admiring the uncouth. The time has arrived for putting things in order. We have had our eyes opened by the catastrophes of war. We are familiar with lorry loads of debris, representing in some cases all that remains of famous buildings. We read of the ruins of Bristol carried overseas to make roads; we know the state of Coventry and other cities. The finest works of the Middle Ages have been mutilated, the creations of Wren's master mind have been levelled. Small wonder that public opinion is perturbed, and very rightly distrusts innovations.

In looking forward to the years of reconstruction, I am struck with the thought that, if the sympathy of the public is increased, the art will revive and will expand to universality. You will say, "How is this to be accomplished when democracy is uncontrolled, when architects themselves are divided, when leadership is rare, when pigmies abound and giants are no more?" I have the courage to be provocative and to reply that, because public opinion is appreciative of architectural beauty, perhaps in a vague way, there is no reason why the public outlook should be disparaged. There is, of course, the reservation that cultured opinion acts as leaven to the whole. But the fact remains that the art needs patronage and encouragement of the right kind.

It has been said that the masses of the people are stupid, especially on matters of art and taste. Yet it is these selfsame masses who visit Hampton Court, the museums and the picture galleries; it is the ordinary person in the provinces who knows most about the cathedral or the parish church. Time was when the cottage homes of England were objects of beauty, and proud is the possessor of one to-day; time was when the English manner of building was superb.

A new vision frees the old social boundaries which used to confine thought. We begin to understand the limitations of our power and attempt to recall the beauty that formerly was general. We lament only too justly the comparative merits of mass production and the stultifying efforts of financial greed. The discipline which will be our lot for many years to come, and by the exercise of which we shall advance, is the outcome of the mistakes and errors of a century of prosperity.

But there is hope in the fact that the public is tiring of superficial amusements. Cacophanic music ceases to attract; the critic finds it difficult to invent new phrases to explain sensational painting; the horrific in sculpture no longer occupies the pen of the journalist. The adventitious in architecture is derided. Because the public is once again becoming sensitive, the bizarre no longer startles, and therefore even that must go the way of all fashions.

In reality, all the fine arts are similar and obey the same law: painting, sculpture and architecture are one and indivisible, as the old artists of the Bottega knew full well. It is said that the spirit of the great artists has vanished, that henceforth we shall witness a great levelling down, that standardisation will be productive of a new order. What is really needed is an ideal. But if it is true that the genius of the old masters cannot be attained at present, it is certain that public taste for the quality of their works is spreading. Great buildings impart a consciousness of possessions to the children of poverty. The circle of the eye takes in beauty unaided by explanations. The art of drawing, which is the foundation of all the fine arts—and is the best education for perception of beauty—is taught in every school. It is becoming widespread as a form of caligraphy.

Architecture, the greatest of the arts, formerly accepted because it created familiar scenery, is now in a fair way to advance by reason of the disasters which have resulted from enemy action.

The finest buildings in the world still exist in London. They have a character and a dignity which can never be challenged. Where else in the world is there a nobler sight than the grand silhouette of St. Paul's Cathedral; where else can be found finer outlines than the spires and steeples of London? Another great national possession is Somerset House, the work of Sir William Chambers. Here the silhouette of the assemblage of buildings is definite in its reticence. Then we have the splendid group of buildings at Westminster, the outcome of the genius of Sir Charles Barry and the sensitive pencillings of Pugin. And there are the Georgian quarters of London, where the silhouette of simple façades is unified in comprehensive lines, and where the studied repetition is contrasted with the piquancy of charming doorways and exquisite wrought-iron railings. You will recall counterparts of these works in every English city and country town.

The older universities can boast of incomparable features, such as the spires and towers of Oxford, or the Renaissance colleges which cluster around the majestic King's College Chapel at Cambridge. Need I mention the splendours of Hampton Court, of Chelsea and Greenwich Hospitals? These are among the many great buildings which are appreciated by the public at large because they are understood.

A week ago it was my privilege to visit Liverpool to view the completion of the central space of the great cathedral which the genius of Sir Giles Gilbert Scott has created. Here is a modern building, the noblest in conception since Wren completed St. Paul's Cathedral—a structure symbolising national aspirations as nothing else could. I confess to a feeling of awe and confirmed respect for the artistry of all concerned in the completion of this great work. If such buildings as those I have enumerated communicate indescribable zest to the feelings of the public, a joy in well-being and right thinking, then I submit architecture has achieved some part of its purpose. It is also significant that, while we are engaged in one of the greatest struggles in our history, we are proceeding with the building of several cathedrals. Does not this argue well for the future? Such buildings are founded on the breadth and comprehensiveness of English ideals and reveal striking truths.

My chief argument is to recommend scholarship as an aid in our present architectural difficulties. The pursuit of complete perfection by methods of study, a newer and wider appreciation by the public of all that concerns the art. We should know the best, both past and present; we should be quick to recognise real endeavour and to profit by experience. A more profound study of design and drawing in the schools of architecture would deter the tyro from imitating prevalent fashions. Lack of relations between cultured opinion, as well as the united theories of certain groups of architects, has resulted in a decline which is lamentable. Indecision has created bastard forms of building. The practice of architecture has become competitive, furthering the sensational. The once noble art has been reduced to helotry to serve the unbridled rapacity of financial gain. When we recall the fascias of multiple stores, when we think of those white-glazed façades devoted to sartorial advertisement, we realise that all is not as it should be in matters of civic decency. The eighth lamp of architecture, unknown to Ruskin, which encouraged the decline, is truly a Jack o'Lantern.

I ask: Is it reasonable for architects to expect the public to ignore beauty in favour of theories which are transient? Shall we burn our books, give up study, and cease to admire pleasant things because of the vanity of the few who have come under the Teuton spell? They have eyes but see not, understanding have they but understand not. They go about asking us to admire foreign names and to bow before a new Tower of Babel. It will not pass in England. Such persons are colour-blind, they are safe in criticism that extols bastard engineering, and loquacious when they speak of science as an inspiration to architecture. They have a formula which is mainly horizontal, a passion for the nudistic, and blind faith in machinery. The public naturally resents the sort of pseudo-architecture proposed. Need I remind you of the fate of certain fine quarters in London, of the total disregard for neighbourly manners, of the futility which aims at increased ground rents and a thousand and one desolations?

In the years of reconstruction that lie ahead much will depend upon the wise direction and training of our young men and women in the practice of art. The need for centralised guidance and some measure of control is very apparent.

Much could be done by setting up a Committee of Taste or by increasing the powers of the Royal Fine Art Commission. I offer the suggestion that the Architectural School of the Royal Academy might be reconstituted for the promotion of the study of civics and architecture proper. If this were done, the aspirations of all schools would be co-ordinated to a general policy. We should be in a fair way towards the re-establishment of an ideal. Above all, architects should be invited to view amenities with the eyes of artists. Alas, this is not the case today. How few employ their time making drawings and sketches; where is the enthusiasm for the pictorial? How rare the genuine inspiration.

The whole tenour of the age (the indiscriminate destruction of priceless buildings is but an incident) bids us to be up and doing. The public cannot afford to wait, Micawber fashion, for something to turn up. The public demands buildings with the fibre of immortality in them; it is, therefore, from the cultural sections of society that patronage and support must come. In a word, we should prepare now for the judgment of posterity and bequeath our authority to generations that will succeed us. The most pressing need of the moment is for a school of architectural design for post-graduate architects, and I submit that no better foundation exists than His Majesty's Royal Academy. The public desires that brilliancy which arises from perfection of finishing. But I would remind my listeners that such results cannot be obtained without financial considerations. The Government has to contend with difficulties which are grave and serious, and the Treasury is in no mood to make disbursements for art education in the midst of war. At least £50,000 would be required to found such a post-graduate school as the one I suggest. But this vast sum is a trifle compared to the benefits which its wise administration would confer.

CONCERNING DAY-WORK SHEETS

By F. R. JELLEY, A.R.I.B.A.

DURING the past year or so there has been an immense revival in interest in a branch of the literature of our trade that was formerly much despised, and, indeed, regarded with some suspicion by æsthetic minds. For these are times when the formal tender and fixed estimate have practically disappeared from circulation and the vogue of the day-work sheet predominates.

Day-work sheets are, of course, of infinite variety, but they can be classified, broadly, in three groups. There are the elaborate typewritten affairs of the big contractors, cold, correct, and uninspiring as weather charts. There are the smart types, shaped like burial certificates and embellished with printed instructions and warnings to craftsmen. And there are the faded, dog-eared contributions of the "little men."

I must confess that I enjoy most the day-work literature of the little men, for these are very human documents and carry the fragrant odour of shag tobacco.

The day-work sheets of big business are signed by a general foreman with a fountain-pen and a flourish, but in the organisations of the little men, Alf and Ted and Charlie still wield a carpenter's pencil and prepare their own records, which are full of individuality and interest.

Sometimes, for example, Alf is a plumber, "fixing new guttering, 8 hrs." He is assisted by Ted, who describes himself as "General Labourer and Andy Man," and adds, "fetching gutter, etc., 8 hrs. Fares 1s. 6d."

Later Alf appears as a glazier, "glazeing sash broke by bom, 4 hrs.," and is still enjoying the company of Ted "General assistance, 4 hrs."

On another occasion, Ted, having provided the necessary facilities ("fetching ladder, 2 hrs."), Alf mounts to the roof equipped as a tiler to "replace tiles moved by blarst, 6 hrs." In the meantime, Ted stays below, discovers a brush and a pot of paint, and puts in some useful work at an increased rate of pay, "painting sash broke by bom, 6 hrs. Paint and use of brushes."

Finally, on a Saturday morning, the services of Alf are apparently needed elsewhere, for Ted resumes normal activities as a general labourer, and is left, lonely and probably disconsolate, "clearing up and took tools and ladder away, 4 hrs."

Charlie, a joiner, signs his name as Chas., makes one fleeting appearance, and stays four hours. He repairs the sash broken by bomb and renews two cords, procured by the invaluable Ted, who makes a note on the same date "fetching cord for sash broke, 2 hrs., 6-ft. cord. Fares 2s. 9d."

"Fares" is the sole item common to day-work sheets of all types. Sometimes it appears as "Fares, etc.," but, in one form or the other, it permeates the whole literature of day work, from the typewritten charts of big business down to the crude pencilled scribblings of the little man.

When Ted, at the urgent request of Charlie, departs in pursuit of sash-cord, does he hail a taxi and tip munificently on the conclusion of the journey? It is, of course, credible, but is it permissible? On the other hand, if Charlie records a modest sixpennyworth of fares, is the architect, as a conscientious scrutineer of day-work charges, expected to demand production of Charlie's bus-tickets?

When Alf, who lives at Mitcham and works for a builder at Cricklewood, glazes a sash "broke by bom" at Tooting, does he travel from Mitcham to Tooting via Cricklewood, and, if so, is the employer expected to pay Alf's fare on the ground that, as in Chesterton's poem, other jolly fellows actually went to Birmingham by way of Beachy Head?

On such matters the text of the working agreement for building trade operatives in the London district is somewhat obscure. It says :—

". . . The shop or job from which the workman is sent is to be regarded as the centre for measuring the distance. Workmen who are sent from the shop or job shall be allowed expenses, and time at standard rates occupied in travelling one journey only to and from the job, and, in addition, as follows :—

A. If the distance be not over two miles, any extra expense incurred daily by the workman over and above the amount he would have to pay for travelling from his home to the shop or job from which he is sent.

If the distance be over two miles measured in a direct line, paragraph A does not operate, and an allowance shall be paid in accordance with the following :—

B. Over two miles and up to five miles, 9d. per day.

C. Over five miles and up to 10 miles, 1s. 3d. per day.

D. Over 10 miles and up to 15 miles, 1s. 10d. per day.

E. Over 15 miles, 3s. 8d. per day. . . ."

In some quarters there is, I fear, a tendency to regard day-work literature as a brand of unpopular fiction, and it is even alleged by cynics that sheets have been rendered on behalf of craftsmen who do not exist.

Mrs. Harris, the mythical friend of Sarah Gamp, may have her prototypes, but they do not appear among the organisations of the little men of the building trade. After perusing innumerable pages of their signed autobiographies, I am convinced that Alf and Ted and Charlie possess very definite, distinct and vivid personalities. I shall, therefore, continue to check their arithmetic and then certify their accounts without further comment.

One elderly lady, who is a difficult client, assures me that Ted always borrows a dust-pan and brush and "sweeps up very nicely after him." It seems certain, therefore, that if, on occasion, Ted has been guilty of some slight extravagance in this complicated matter of fares, the Recording Angel—before whom all day-work sheets must eventually come for scrutiny—will shed a tear upon the offence and blot it out for ever.

COMING EVENTS

Tuesday, November 4.

INSTITUTION OF CIVIL ENGINEERS.—Presidential Address by Professor C. E. Inglis. At Great George-street, S.W.1. 2 p.m.

LEICESTER COLLEGE OF ARTS AND CRAFTS.—Miss Elizabeth Denby on "Post-War Housing." At the College. 6.15 p.m.

HOUSING CENTRE LUNCH.—Mr. Gordon Stephenson on "Hostel Building for Industrial Workers." At 13, Suffolk-street, S.W.1. 1 p.m.

Thursday, November 6.

ROYAL ACADEMY OF ARTS.—Mr. F. R. Hiorns, F.S.A., F.R.I.B.A., on "Housing the People." At Burlington House, W. 3 p.m.

Saturday, November 8.

I.A.A.S. (LONDON AND HOME COUNTIES BRANCH). Mr. F. J. Osborn on "Replanning Britain," and Annual General Meeting. At 75, Eaton-place, 2.30 p.m.

CONSTRUCTIONAL DEVELOPMENT IN COUNTRY AREAS

APPOINTMENT OF MINISTRY OF WORKS COMMITTEE.

LORD REITH, after consultation with the Minister of Agriculture, has appointed a Committee on Building and Other Constructional Development in Country Areas, with the following terms of reference :—

"To consider the conditions which should govern building and other constructional development in country areas consistently with the maintenance of agriculture, and in particular the factors affecting the location of industry, having regard to economic operation, part-time and seasonal employment, the well-being of rural communities, and the preservation of rural amenities."

The Committee will consist of :—

LORD JUSTICE SCOTT (Chairman), Chairman of the Agricultural Organisation, 1917-1922, and of the Acquisition of Land Committee, 1917-1919.

LORD ADDISON, Minister of Agriculture, 1930-31, present Chairman of the Buckinghamshire War Agricultural Committee.

LORD RADNOR, one of the liaison officers to the Ministry of Agriculture and member of the Executive of the Central Landowners' Association.

LADY DENMAN, Chairman of the National Federation of Women's Institutes and of the Women's Land Army.

MR. R. COBB, member of the executive of the Central Land Agents' Association.

MR. H. S. COOPER, one of the managing directors of the Ford Motor Company.

MR. S. R. DENNISON, Professor of Economics at University College, Swansea.

MRS. LIONEL HICHENS, member of the Royal Commission on the Distribution of the Industrial Population.

MR. A. E. MONKS, an official of the National Union of Agricultural Workers.

MR. L. RAMSBOTTOM, head of the Rural Department of the National Council of Social Service.

MR. R. H. ROBERTS, formerly Industrial Adviser to the Commissioner for Special Areas.

MR. P. ROBINSON, Director of the Co-operative Wholesale Society.

DR. L. DUDLEY STAMP, Director of the Land Utilisation Survey of Britain.

MR. R. A. WARD, Chairman of the West Sussex branch of the National Farmers' Union.

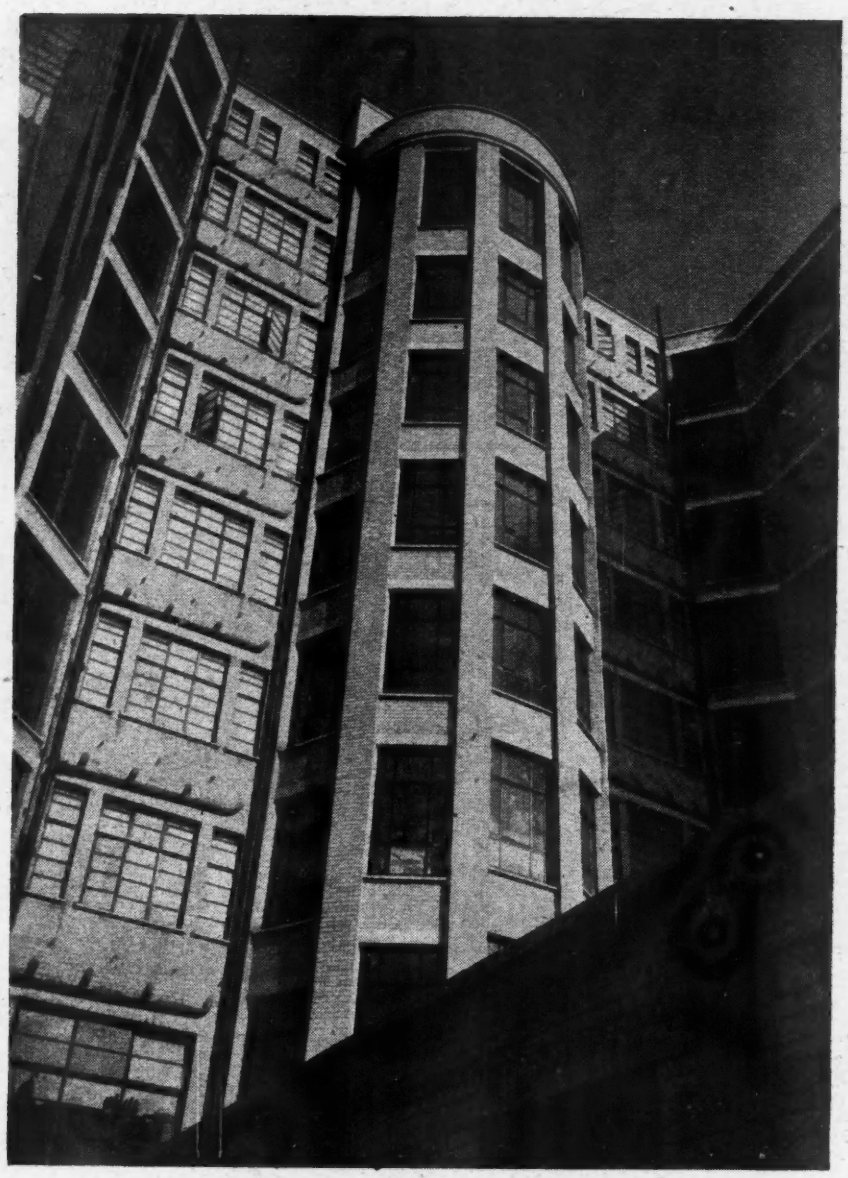
JOINT SECRETARIES : Mr. Thomas Sharp and Mr. B. C. Engholm, Lambeth Bridge House, London, S.E.1.

Above : VIEW FROM RUSSELL SQUARE.
Left : DETAIL OF ENTRANCE PORTICO.

"RUSSELL SQUARE HOUSE," WOBURN PLACE, W.C.

MR. C. LOVETT GILL, F.R.I.B.A., ARCHITECT.

"RUSSELL SQUARE HOUSE," WOBURN PLACE, W.C.



VIEW FROM REAR COURT.

STANDING ON THE NORTH-EAST CORNER of Russell-square, this new office block is bounded on the east by Woburn-place, and occupies a portion of a vacant site. The complete design for the block was illustrated in *The Builder* in May, 1939. The planning was controlled by having to use the existing stanchions in a one-storey building erected on a portion of the site in 1925, which comprised the bank at the corner and shops in Woburn-place.

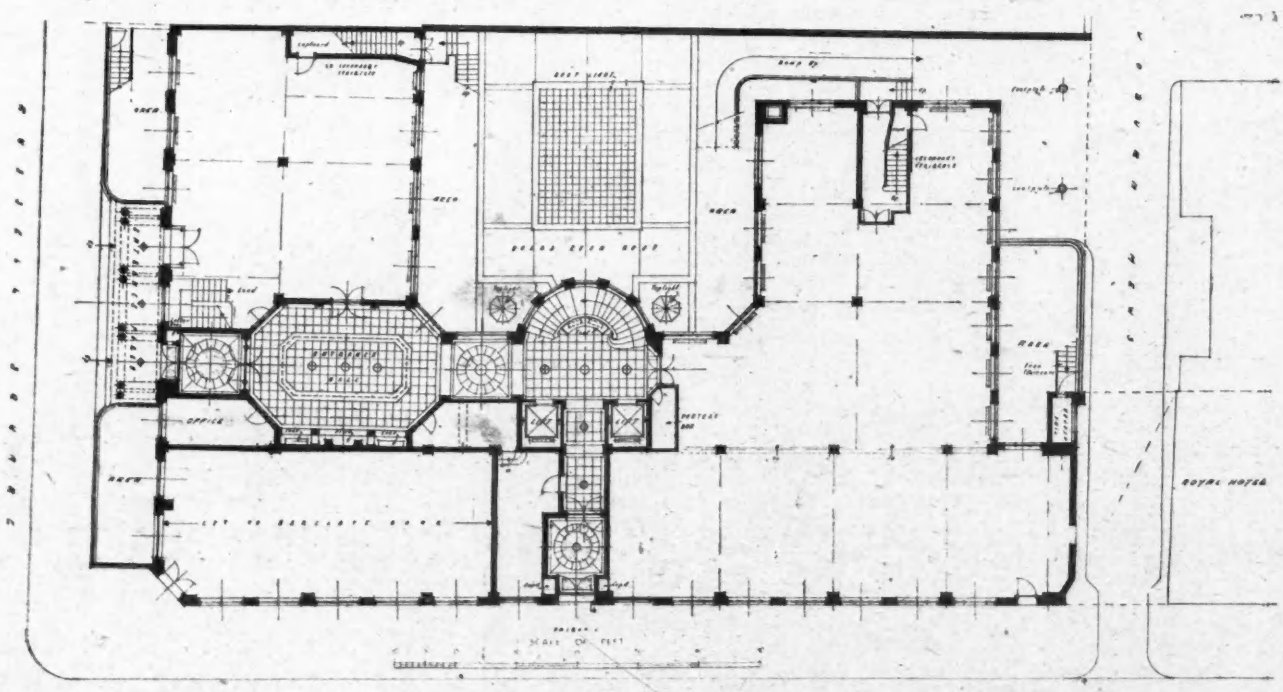
Owing to the shape of the site, the central staircase had to be at some distance from Russell-square, and the central three-bay portico got over the difficulty of the asymmetrical axis line of the entrance hall on the Russell-square front.

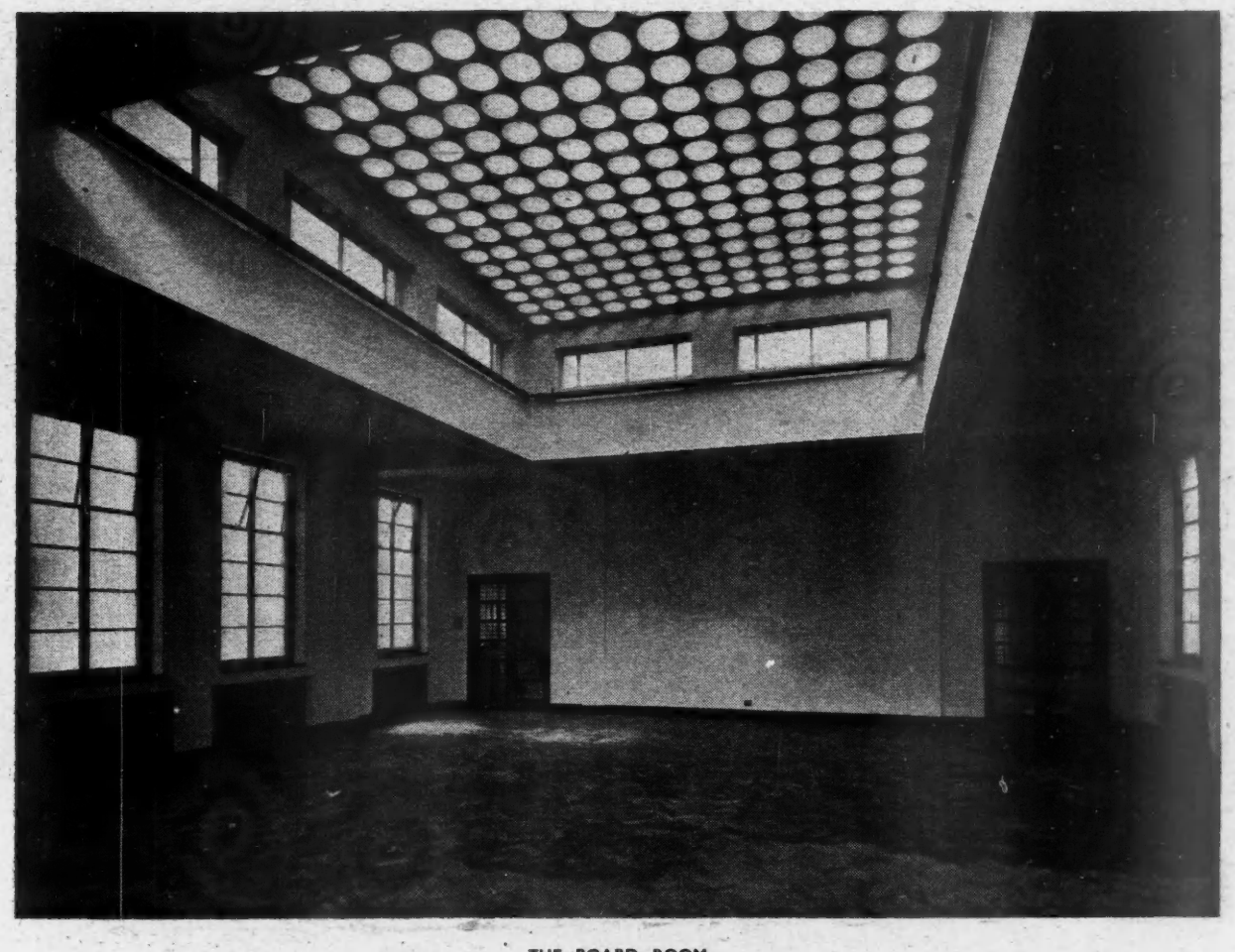
The elevation to Russell-square and Woburn-place carries on the lines of the existing bank in Portland stone, the upper part being in 2-in. purple facings, the principal cornice, carried out in concrete when the floors were cast, being covered with copper sheeting.

The architect for the design is Mr. C. Lovett Gill, F.R.I.B.A., and the consulting engineer Mr. S. Bylander. Messrs. Mullen and Lumsden, Ltd., of Holborn, W.C.1, were the general contractors. The following is a list of the sub-contractors:—

Constructional steel, Dorman, Long & Co.; steel windows, Henry Hope & Sons; heating, Comyn, Ching & Co.; lifts, Waygood-Otis, Ltd.; letter-chutes, E. Coules & Son; electric light, Bell Bros.; floors, Caxton Floors, Ltd.; terrazzo partitions and floors, Art Pavements, Ltd.; marble work, Anselm Odling & Co.; plasterers, Samuel Wright & Co.; stonework, Bath and Portland Stone Firms, Ltd.; lantern lights, Lenscrete, Ltd., and Henry Hope & Sons; floor covering, British Inlaid Ruboleum; tiles, Carter & Co.; plumbing, Ellis, of Kensington, Ltd.; wood-block flooring, Vigo, Ltd.; ironmongery, Matthew Bros.; iron balustrading, George Wright, Ltd.; patent roof, Andersons, Ltd.; asphalt, Val de Travers; door furniture, Yannedis & Co.; bricks, Proctor & Lavender; paintwork, Clarke, Gay & Co.; and glazing, J. Bridges & Co.

Below: GROUND-FLOOR PLAN.





THE BOARD ROOM.

THE RUSSELL SQUARE ENTRANCE HALL.

"RUSSELL SQUARE HOUSE," W.C. MR. C. LOVETT GILL, F.R.I.B.A., ARCHITECT.

THE GARDEN FRONT.

THE MAIN ENTRANCE.

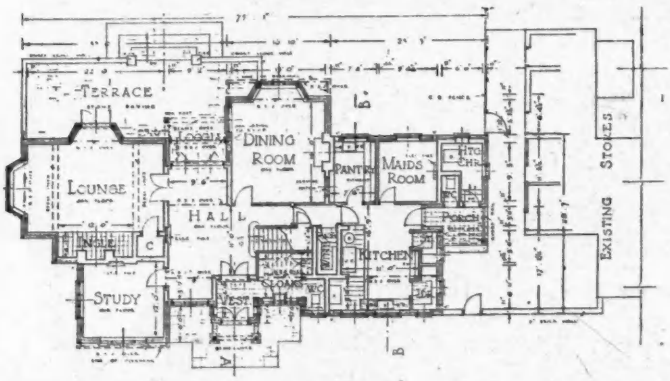
"SILVERDELL": A HOUSE AT WATFORD, HERTS

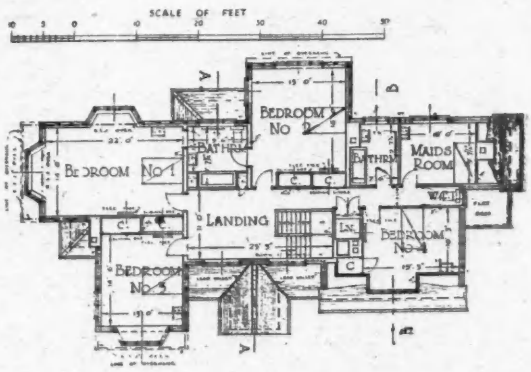
MR. C. W. RICHARDSON, F.I.A.A., ARCHITECT.

DESIGNED FOR MR. ERNEST JONES, THIS HOUSE (at Nascot Wood-road, Watford) stands in gardens covering five acres. The half-timbered work is genuine, being old barn oak, and a mellow facing brick has been selected which "marries" well with the old timber. The building was completed in December, 1939, to plans by Mr. C. W. Richardson, F.I.A.A. (Messrs. Swannell and Sly).

The contractors were Messrs. Charles Brightman & Son, Ltd., Ebury-road, Watford, and subcontractors and suppliers were: Roofing and facing bricks, J. A. Pratt & Co., Ltd.; panelling, oak stairs, etc., Allensor's, Ltd.; central heating, Gibbons & Son; casements (steel), Crittalls, Ltd.; leaded lights, etc., Halls, Ltd.; sanitary fittings, stoves, etc., and ironmongery, Standard Range and Foundry Co., Ltd.; electrical work, J. W. Russell, Ltd.; and flush doors, Venesta.

Below: PLANS.





THE LOUNGE.

THE DINING-ROOM.

"SILVERDELL": A HOUSE AT WATFORD, HERTS.

MR. C. W. RICHARDSON, F.I.A.A., ARCHITECT.

WAR-TIME BUILDING PRACTICE

By R. Cotterell Butler, A.R.I.B.A.

68—WAR-TIME AND POST-WAR REHOUSING: CONSTRUCTION—9.

MECHANISED BUILDING CONSTRUCTION (*continued*).

STRUCTURAL CONSIDERATIONS.

HAVING discussed the general question of mechanised construction and the technical possibilities of its development as a practicable building technique; considered the more important types of plant and equipment for site mechanisation; and discussed the potential influence of mechanisation on layout problems, we will now examine the effects of mechanised building techniques upon structural design.

Apart from mechanised *in situ* concrete construction and the rare possibility of developing machinery to handle *in situ*, small preformed building elements, mechanised construction is essentially bound up with prefabrication technics. Just as the ultimate extension of prefabrication would be the production—off site—of a complete dwelling and its transport to the site in its entirety, so the *ultima thule* of mechanisation would be the handling on site of prefabricated units consisting of completed dwellings.

We have often emphasised the fact that prefabrication is a purely relative term, since the pre-site assembly or preparation of a structural element—be it ever so small and simple—is, strictly speaking, an example of prefabrication. Now, obviously the primary function of mechanisation is not that of merely replacing human operatives by mechanical contraptions but rather that of increasing the size of structural elements which may be handled in a fabricated condition, and thus making extensive off-site work possible.

MECHANISATION IN THE FACTORY.

So far we have been considering mechanisation on the site, but fundamentally this is only half the story. Just as we have been considering the replacement of manual labour on the site, mechanisation may also play an important part in the factory.

Possibly one might be inclined to argue that, while the types of prefabricated metal windows produced by a manufacturer are of important interest to the architect and builder, the way in which they are fabricated is really not his concern. From this one might suggest that mechanisation in the factory is a matter for the industrialist and his technicians, and not at all the constructor's concern. From many points of view nothing could be more untrue.

The construction of the best possible type of building depends upon the designer knowing how best to exploit the natural potentialities of available materials and manufacturing technics. Now, no one should be in a better position to know what is wanted than the architect, and few should be expected to know more about the potentialities of a given material than its manufacturer. Therefore, only by the closest possible collaboration between the architect—representing the case for what is wanted—and the manufacturer or his technicians—representing what is available—can building technology advance.

In this question, the architect must learn to exploit intelligently the full potentialities of mechanisation in the factory, in order to ensure the most efficient employment of all that the manufacturer's ingenuity and experience can offer.

This point of view is probably best emphasised by an actual example: For many years the plastics industry has been making door furniture for the building industry. Now most architects will agree that the best form for an important utilitarian element like this is a simple shape, with an absence of fussy intersections, fillets and/or mouldings. Unfortunately, through insufficient collaboration between those who should know what is wanted and those who understand the characteristics of plastics moulding, plastics manufacturers have for many years produced moulded door furniture which, in order to meet what they incorrectly imagined to be the requirements of the architects, has necessitated needlessly elaborate moulds and generally have raised difficulties in manufacture which need never have occurred.

Now intelligent collaboration between the building constructor and the plastics moulding technician, would have resulted in a mutual realisation that what the architect wanted was also what it was easiest for the manufacturer to produce. The development of structural forms best to exploit the advantages of factory and site mechanisation is obviously an even more vital problem than the design of door furniture.

The design of prefabricated building elements for mechanised erection and assembly is necessarily integrally associated with the particular class of building material being used. While, as discussed in a previous article of this series, there is often (particularly in connection with large-scale schemes) considerable justification for employing a multiplicity of materials—each being used where its particular properties are best exploited—from a mechanisation point of view, widely different types of material involve different techniques in order to avoid repetition and yet at the same time to cover the field sufficiently comprehensively.

(a) **GENERAL CONSIDERATIONS.**—Structural aspects which apply generally, whether lightweight or heavyweight construction, extensive or limited prefabrication, extensive or limited mechanisation is adopted.

(b) **HEAVYWEIGHT CONSTRUCTION.**—Structural systems using, wholly or extensively, heavyweight materials such as brickwork or concrete, or parts of composite structures, such as foundations, using heavyweight materials.

(c) **LIGHTWEIGHT CONSTRUCTION.**—Complete lightweight construction and lightweight elements in composite structures. Lightweight framing and panelling, roofing, internal equipment, etc.

JOINTING.

A satisfactory solution to the problem of jointing individual prefabricated elements is the necessary basis of efficient prefabrication technics, and it is equally important in connection with mechanised building procedures.

However satisfactorily a prefabricated element may be constructed in the factory, however efficient it may prove under test as a moisture barrier, unless the jointing arrangement between each element is equally efficient the structure as a whole will be virtually a failure.

The problems arising out of jointing requirements for prefabrication have already been referred to under other sections of this series, and considerable attention has also been given to the question of semi-permanent jointing for emergency and general war-time purposes.

In addition to problems which crop up in the operation of any prefabrication technique, there are some which arise entirely out of, or are aggravated by mechanisation requirements.

ELEMENT SIZE—BED AND VERTICAL JOINTS.—Even in what is predominantly lightweight construction, the large size of element which it is possible to handle by mechanical equipment will frequently mean that bed joints will involve very considerable pressure on whatever jointing material is used, unless provision is made to relieve the pressure.

In the case of heavy preformed panel-elements of reinforced brickwork or reinforced concrete, the pressures exerted are such that unrelieved, orthodox "buttering" would be entirely out of the question. No matter how carefully and evenly an element were lowered into position, the jointing material might be expected to flow-out under the pressure unless its consistency were so great that for effective jointing it ceased to be of value. Again, even supposing it were possible to develop a suitable form of mortar to carry the heavy load imposed and at the same

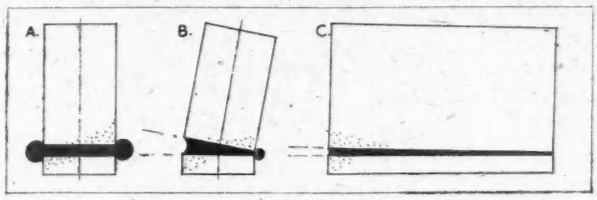


DIAGRAM 1.

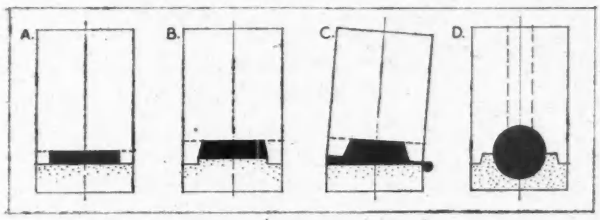


DIAGRAM 2.

DIAGRAM 1.—Sketches emphasising the need for guarding against the effect upon bedding compounds of heavy, mechanically-erected elements (effects exaggerated).

(a) Tendency for extremely heavy preformed elements to impose pressure on jointing material in excess of its carrying capacity in the plastic state.

(b) and (c) Inaccurate location of preformed element due to inconsistent heavy strength of bedding material, due to uneven distribution or composition (moisture content, etc.).

DIAGRAM 2.—Typical horizontal-bed alignment nibs to prevent either excessive pressure being applied to bedding mastic or inconsistent distribution causing poor location.

(a) Simple nibs only facilitating location in one plane, but preventing excessive pressure on bedding material.

(b) Location section controlling position in two directions.

(c) In (a) and (b) danger of jointing material spreading under nibs and causing bad location occurs.

(d) Location arrangement for poured grout-joint to avoid dangers as in (c).

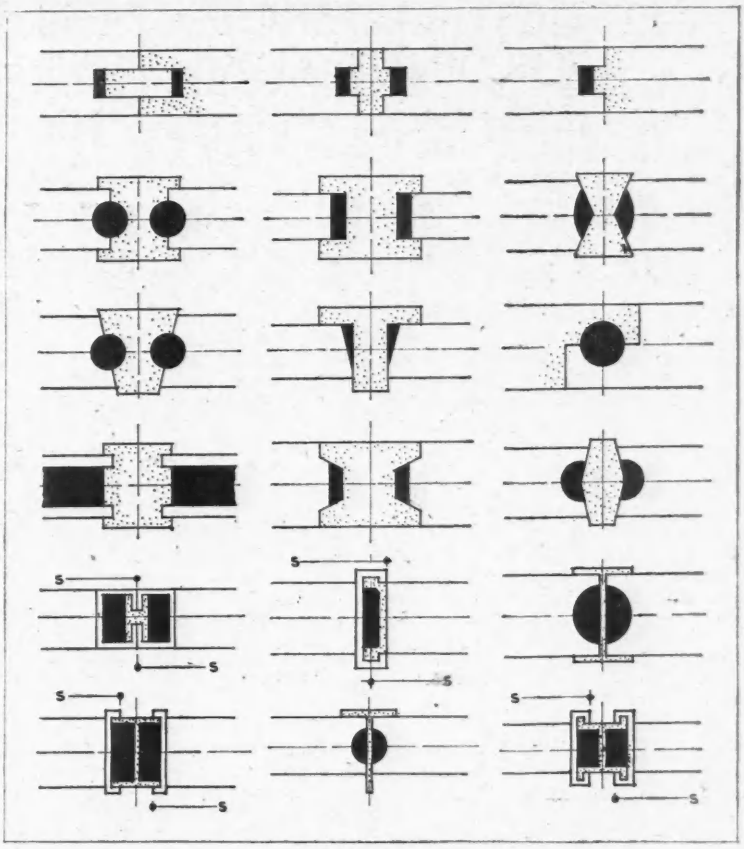


DIAGRAM 3.

DIAGRAM 3.—Vertical jointing and location arrangements for use in connection with "mass," steel, timber and composite systems. (Diagrammatic only: proportions adaptable to specific materials and location and jointing requirements.) "s" denotes shop-produced prefabricated element formed as part of the jointing section.

time form an effective seal, the standardisation of its consistency would need extremely careful control, and there would still remain the problem of maintaining an even density of the distributed material in order to prevent eccentricity in the final position of the element.

It might perhaps be argued that pressures of the order considered above would not occur in practice. Admittedly it does assume prefabricated elements of very considerable size, but the whole purpose behind mechanisation is that of making possible the use of prefabricated elements of a size previously considered impracticable.

Furthermore, even with elements of more limited weight, where jointing flow would not occur, the problem of accurate positioning does arise, for it would be quite impracticable to manipulate, say, a 10 ft. by 10 ft. by 6 in. panel in the same way as a 7-lb. brick.

An extremely workable solution to the jointing and bed alignment problem with brickwork and concrete materials would seem to be the use of a bed, or both contacting members, provided with alignment nibs which would serve to stabilise the element while the jointing material set, thus keeping it level on bed and preventing free pressure on the mortar or other jointing compound. The basis of the use of such nibs is illustrated in the accompanying sketches.

The occurrence of difficulty due to high bed pressure is less likely with lightweight forms of construction, but wherever mastic or similar non-hardening jointing material is used allowance must be made for tendencies towards creep.

With vertical joints, the pressure difficulty does not arise. The main problem here appears to be connected with the distances through which grouts or semi-liquid mastics must be made to flow. In this connection the importance of providing really adequate channels for the reception of sealing compounds cannot be too emphatically stressed.

Apart from the pressure and distribution problems discussed, the general one of accurately locating all joints whether horizontal or vertical requires careful attention. One of the most important developments in building technology of recent years has been the evolution of precision manufacturing technics enabling preformed elements to be manufactured to such a standard of accuracy that thickly buttered jointing and uneven alignment generally have been largely eliminated. Now prefabricated panels of large area may be expected to represent the acme of regular surfacing, and it is therefore extremely important that careful provision be made to align panel-to-panel joints as efficiently as possible. Alignment arrangements should be evolved with erection characteristics in mind in order that any location devices adopted should not complicate the mechanised manipulation of the panel or other element.

Where the nature of the material, plant available for erection of elements or other factors tend to make accurate alignment of elements difficult or impossible, structural detailing should provide for the joints to show naturally, and allow inaccuracies of position to be taken up by pre-determined breaks in the continuity of the surface. The primary general considerations involved in jointing are illustrated above.

SCOPE.

As far as structural detailing is concerned, there are few limitations to the complete mechanical assembly of a structure. In addition to obvious applications such as the assembly of wall units, roof elements and vertical elements having door and window openings, chimney stack elements, complete fitted units such as prefabricated kitchens and bathrooms, and other equipment may be totally shop-produced and positioned in the structure by suitable plant. Foundation piers, floor slabs, or even large flooring elements may also be handled at an appropriate stage in the erection of the structure, and much excavation work may be carried out by means of mechanical equipment.

While the maximum off-site construction is desirable, there will inevitably be some processes which must be carried out *in situ*. Here, full advantage of contemporary mechanical facilities should be taken (screws driven by powered drivers, paint and similar finishes applied by the spray gun, and floor or other surfacing carried out by mechanised equipment).

An integral part of successful mechanised construction must be predetermined organisation, each set of plant or gang of operatives working to and on schedule. It must not be forgotten that any scheme of mechanisation will involve considerable capital outlay on plant, and unless this plant is continuously employed there will be losses.

(*To be continued.*)

STRUCTURAL PROTECTION OF BUILDINGS AGAINST I.B.s

M.H.S. BULLETIN C.23.

THE Ministry of Home Security (Research and Experiments Department) have issued from Horseferry House, S.W.1, Bulletin C.23, being "Technical Notes on the Structural Protection of Buildings against Incendiary Bombs." Following is the complete text :—

The risk of damage to buildings by kilo magnesium bombs can be greatly reduced by the adoption of straightforward precautions. There is no one formula that can be recommended for all types of buildings, but there are certain general principles which should govern the choice of appropriate protective measures. In applying such measures, due regard must be paid to the special features of the buildings under consideration, and attention must be given to all parts of each building. A small portion of roof space left untreated or an unprotected skylight in an otherwise impenetrable roof may well render the other measures unavailing. Simply stated, the principles are as follows :—

(*a*) Consideration should first be given to the surface on which the bomb will be brought to rest. This is called the "stopping layer." It may be an existing part of a building or it may be introduced for this special purpose.

(*b*) If possible, the stopping layer should be the roof—*i.e.*, the aim should be to keep the bomb out of the building altogether. If this can be done, no other special measures are necessary.

(*c*) If the roof is not and cannot be made impenetrable, a stopping layer should be provided at a suitable level beneath it. The stopping layer and the space above it should be so constructed or treated that an incendiary bomb burning on the stopping layer would be prevented from firing the building. To ensure this, three measures are necessary :—

(1) The provision of an incombustible surface to the stopping layer.
(2) Removal of all combustible material from above this level.
(3) Fire-retardant treatment of exposed timbers above the stopping layer.

(*d*) Incombustible material need not be removed, but it must be so arranged that all parts of the space occupied are readily accessible to fire-parties. Enough room must be left between the material and the roof or ceiling for fire-fighters to operate.

Position of Stopping Layers.

Practically any of the usual forms of fire-resistant concrete roofs will resist penetration by the kilo magnesium bomb, and therefore in themselves form suitable stopping layers. This should be borne in mind in designing new buildings.

With flat, boarded roofs the floor of the top storey will generally be the stopping layer. With pitched roofs as ordinarily constructed with a slate or tile covering and a lath-and-plaster ceiling only below, the floor of the top storey will again generally be the stopping layer, but if there are 1-in. boards above the ceiling joists it is probable that this will form the stopping layer. A number of constructions suitable as stopping layers are given in Appendix I.

Materials for Protecting Internal Stopping Layers, etc.

The British Standards Institution has published specifications of standards which should be reached by materials for protecting internal stopping layers and timbers above them, as follows :—

BS/ARP 27.—Materials to this standard are intended for the protection of timber floors from ignition by the kilo magnesium bomb burning on the material. They should, in fact, wholly prevent ignition of the floor by this weapon.

BS/ARP 47.—Materials to this standard are intended for the same purpose as BS/ARP 27, but the standard set is lower. They will markedly retard and may even entirely prevent the outbreak of a destructive fire.

BS/ARP 39.—Paints and coatings to this standard are intended for the protection of upper timbers against ignition by a kilo magnesium bomb burning close to them. Materials to this standard must not be expected to do more than claimed above—*e.g.*, if the upper surface of a timber floor were covered with a paint to the standard of BS/ARP 39 and a kilo magnesium bomb lodged on the floor and ignited, the coating would not prevent ignition of the floor.

Treatments conforming to the standard of BS/ARP 27 should be insisted on for buildings of high fire risk and places to which access is not easily obtained; materials conforming to the lower standard of BS/ARP 47 may be accepted for use in ordinary buildings provided there is fairly ready access to the parts so protected.

A number of treatments reaching the various requirements are described in Appendix II.

The radiant heat of a burning incendiary bomb is sufficient to ignite timber within a radius of about 18 in., and timber exposed within 18 in. of the stopping layer should therefore be treated in the same way as the surface of the stopping layer. Where this is found to be impracticable, as it may be in some existing buildings, an additional coat of fire retardant paint may be substituted.

Types of fire-retardant paints and coatings suitable for use on upper timbers are given in Appendix III. All exposed timber surfaces above the stopping layer should be treated in this way.

A number of proprietary brands both of incombustible materials and of fire-retardant treatments have been tested to the above specifications. Lists of materials found to conform, and in addition a list of some other materials which, though failing to qualify under the appropriate test, may nevertheless be used, are obtainable from : Ministry of Home Security, Publications Branch, Horseferry House, Thorney-street, S.W.1.

Copies of the specifications may be obtained from the British Standards Institution, 28, Victoria-street, London, S.W.1, price 4d. each, postage free.

APPENDIX I.

CONSTRUCTIONS SUITABLE AS STOPPING LAYERS.

ROOFS.—The following will resist the initial impact of a bomb and will not be damaged by an incendiary bomb burning on the surface.

The distance between supporting joists is virtually immaterial within the range commonly employed.

REINFORCED CONCRETE SLABS ALONE.

	Wt./sq. ft.
3½ in. 1 :2 :4/0.60 concrete reinforced with 0.3 lb. steel per sq. ft.	42 lb.
2½ in. 1 :2 :4/0.60 concrete reinforced with 1.0 lb. steel per sq. ft.	30 lb.

In both cases reinforcement should be near the lower surface.

STEEL PLATE ALONE.

3/16 in. mild steel plate	7.8 lb.

N.B.—There is no inherent value in netting or steel in the form of expanded metal. A weight approximately equivalent to 3/16 in. plate is necessary.

ADDITIONS TO FLAT JOISTED ROOFS.

2 in. B.S. 368 concrete paving slabs ...	24 lb.
2½ in. plain concrete	30 lb.
¼ in. mild steel plate	5.2 lb.

These are protections for placing over roof boarding. The majority of existing flat-roof constructions will sustain an added load of about 25 lb./sq. ft. with an additional snow load, without strengthening. There may be some deflection, but this may not be dangerous. Where there is doubt on the point, competent advice should be obtained.

Leaded roofs should be protected against the corrosive action of concrete, either by coating the soffits of precast flags with bituminous paint, or by a layer of waterproof paper below concrete laid *in situ*.

ADDITIONS TO PITCHED ROOFS, SLATED OR TILED.

	Wt./sq. ft.
2 in. B.S.368 concrete paving slabs	24 lb.

The majority of pitched, slated and tiled roofs would need to be strengthened to carry this load; competent advice should be obtained before attempting the process.

ADDITIONS TO PITCHED ROOFS, SHEETED.

	Wt./sq. ft
1 :2 :4/0.60 concrete as follows :—	
1½ in. thickness on 20 B.G. corrugated iron sheeting	20 lb.
1¾ in. thickness on 24 B.G. corrugated iron sheeting	26 lb.
2½ in. thickness on 26 B.G. corrugated iron sheeting	34½ lb.

The thicknesses are to be measured at the thinnest place. Before this treatment is applied to existing roofs, competent advice should be obtained as to the necessity for strengthening.

This form of protection may be used for special constructions over vital plant, etc.

STOPPING LAYERS BENEATH ROOFS.—The velocity of a bomb is somewhat reduced after passage through a roof, and it follows that a stopping layer beneath a roof need not be so resistant as one which has to withstand the initial impact. The following may be used beneath the average roof of slates or tiles on battens :—

1 in. nominal timber board (or ⅞ in. actual thickness) on joists at normal centres.
1½ in. cement mortar or fine concrete on paper-backed steel mesh plastering lath.
1½ in. cement mortar or fine concrete reinforced with expanded metal (laid *in situ* or precast).
1 in. clear thickness cement mortar or fine concrete laid over wattle hurdles (total thickness about 3 in.).

APPENDIX II

MATERIALS FOR PROTECTION OF STOPPING LAYER, AND TIMBERS WITHIN 18 INCHES OF STOPPING LAYER, AGAINST FIRE.

Parts of stopping layers which are difficult of access should be protected by a suitable layer of granular material or light-weight concrete (Class 1 below) or other material conforming to BS/ARP 27 (Class 2 below). Parts readily accessible should also be protected, but the choice of materials can be extended to include those which satisfy only the requirements of BS/ARP 47 and also those in Class 3 below.

CLASS 1.—LOOSE GRANULAR MATERIALS AND LIGHT-WEIGHT CONCRETE.

These are intended for the protection of boarded floors or ceilings. They must be dry when installed, and if the joints between the boards are not tight, sheets of fine paper, preferably bituminous or other weather-proofed paper, should be laid first. The granular material should be poured into small heaps spaced over the paper, and raked level or screeded with straight-edge on spaced guides. The following materials may be used in a layer 2 in. thick. They should be graded to pass a ½-in. sieve and contain sufficient fines to form a dense and compact mass :—

Dry sand (sea sand should not be used on account of its hygroscopic character).
Foamed slag.
Household or boilerhouse ash.
China clay.
Limestone or chalk.
Dolomite.
Incombustible rubble (brick, stone, etc.).
Slate dust.

A 2-in. layer of concrete made with foamed slag or other light-weight aggregates and containing no more than one part of Portland cement by volume to 10 of aggregate will give protection at least equal to that of the above.

CLASS 2.—MATERIALS CONFORMING TO THE BRITISH STANDARD SPECIFICATIONS.

A.—ASBESTOS MILLBOARDS.—These materials are for internal use. They are supplied in various thicknesses. Being relatively weak they require continuous support. They may be fixed to horizontal surfaces by nailing or by means of an incombustible adhesive, for instance, silicate of soda or calcium sulphate plaster. Joints between sheets should be carefully sealed with a suitable fire-resisting mastic or putty or calcium sulphate plaster. When applied to rafters, boards should be closely nailed around the members.

A number of materials of this type have been tested and found to conform with the specifications in the following thicknesses :—

BS/ARP 27 ... ... 1 in.
BS/ARP 47 ... ... ½ in.

B.—SPRAYED ASBESTOS.—Asbestos fibre with a suitable binder may be applied directly by means of a spray to any desired thickness. It can be used on wood, metal and concrete and on either horizontal or vertical surfaces.

A number of materials of this type have been tested and found to conform with the specifications in the following thicknesses :—

BS/ARP 27 ... ... 1 in.
BS/ARP 47 ... ... ½ in.

C.—CALCIUM SULPHATE SHEET MATERIALS, e.g. gypsum plaster board and anhydrite board.—These comprise a group of building boards obtainable in various sizes up to a maximum of 12 ft. x 4 ft. and in various thicknesses. They are commonly used in ordinary building work for ceilings or lining walls and are fixed by nailing.

A number of materials of this type have been tested and found to conform with the specifications in the followiog thicknesses :—

BS/ARP 27.—2 layers of anhydrite board each ½ in. thick, the lower nailed to the timber and the upper stuck to the lower with calcium sulphate adhesive.

BS/ARP 47.—½ in. anhydrite board. ⅜ in. plaster board; or ½ in. plaster board if fixed with a suitable calcium sulphate adhesive.

D.—MAGNESIUM OXYCHLORIDE COMPOSITION.—The use and properties of this type of flooring are well known and it affords a good protection against incendiary bombs. A layer ¾ in. thick may be expected to give protection to the standard of BS/ARP 27.

E.—CERTAIN TYPES OF ASBESTOS WALLBOARD.—These boards are described more fully under the heading of "Asbestos Cement Sheets" in Class 3 (see below). Certain types do not cause dispersion of the bomb, and these are likely to satisfy the

standard specifications in the following thicknesses :—

BS/ARP 27 ... ... ¼ in.
BS/ARP 47 ... ... ⅜ in.

Reference should, however, be made to the lists obtainable from the Ministry of Home Security.

F.—Asphalt.—Asphalt is a useful material for forming floors which have to be subjected to hard wear. It contains a proportion of bitumen, which is a combustible material, and its use would therefore add to the total quantity of combustible material present in the building. Asphalt has been shown by test to be resistant to the burning of fire bombs, however, and it is only in a serious and extensive fire that its combustibility would be a disadvantage. It would not ordinarily be recommended for use in the protection, for instance, of the floors of attics in dwelling houses.

CLASS 3.—MATERIALS NOT CONFORMING IN ALL RESPECTS TO BRITISH STANDARD SPECIFICATIONS, BUT RECOMMENDED FOR USE IN APPROPRIATE CIRCUMSTANCES.

Many incombustible materials which can be used to form a hard-wearing floor are also liable to cause violent dispersion of the bomb. Where such a floor is required certain materials which fail to attain the standard of BS/ARP 27 or 47 in this respect may be employed. The risk must be appreciated by any personnel whose duties may take them in the neighbourhood of a bomb resting on such a floor. Materials of this description should be used only if they are specifically included in the list obtainable from the Ministry of Home Security.

A.—Asbestos Cement Sheets.—These comprise a group of board and sheet materials, consisting of asbestos with varying proportions of binding material. The densest type is normal asbestos cement, which is liable to be disrupted by sudden heating. Types richer in asbestos, some of which are included under Class 2, are less liable to cause dispersion of the bomb, but as the proportion of asbestos is increased the boards become less rigid, and require more frequent fixing.

The sheets may be fixed by nailing or screwing, or alternatively by an incombustible adhesive, e.g., silicate of soda or calcium sulphate plaster. When used over rafters they should be nailed or screwed closely around the members.

In view of the variation in composition it is impossible to give a general recommendation as to the thickness to be employed. Sheets should be used in the thicknesses indicated in the official list of those which satisfy the requirements.

B.—Calcium Sulphate Materials Applied in Plastic Condition.—These comprise the more compact water-setting calcium sulphate mixes such as those made from anhydrite. They are very similar in application to such well-known mixes as Portland cement/sand, Keene's cement, and magnesium oxychloride. Their hardness and resistance in relation to normal flooring use will vary according to type and mix, and method of laying. The materials may be laid on horizontal surfaces (e.g., floorboarding) by standard methods, as for laying flooring screeds. For accurate work, particularly where the additional use as flooring is required, craftsmen should be employed. Various methods to secure a key for the composition to the wood may be adopted, e.g., spaced nailing and wire mesh. This is essential where regular use as a floor is involved.

Where application of a reasonably uniform thickness only is required and where craftsmen may not be available, simple screeding methods without special trowelling can be employed. These materials should be used in a thickness of not less than ¾ in.

C.—Cement Mortar and Concrete.—The terms "cement mortar" and "concrete" cover a variety of materials usually consisting of Portland cement and aggregate, which may be flint gravel or other natural stone or artificial materials such as clinker, coke breeze, clay brick, slag, foamed slag, etc. The reaction of the material to the burning of the bomb will vary with the type of aggregate used and with the proportions of the mix. These materials can be applied over boarded floors and will form a wearing surface as well as providing protection against incendiary bombs. Cracking, warping and lifting can be minimised though not entirely prevented by nailing light mesh reinforcement to the base.

Cement/wood compositions consisting of equal parts by volume of Portland cement and sawdust are resistant to incendiary bombs and do not cause dispersion, but when used as *in situ* screeds they tend to shrink excessively. Precast boards can be fixed by nailing. These compositions are applied over floor boards by standard methods. Use of spaced nailing and wire mesh is desirable, and for accurate finish craftsmen should be employed. The compositions may be applied across joists using standard methods and on reinforcement. Their use on upper timbers is not generally advised, but they may be applied over metal lath or mesh by plasterers.

These materials should be used in a thickness of not less than 1 in. (except in the case of concrete composed of Portland cement and sawdust aggregate, where a thickness of ½ in. suffices).

APPPENDIX III.

FIRE-RETARDANT TREATMENT FOR UPPER TIMBERS (RAFTERS, ROOF-BOARDING, ETC.) CONFORMING TO BS/ARP39.

CLASS 1.—SILICATE PAINTS.

Most silicate paints produce a hard film. Some finish with a smooth, and others with a matt surface; some are opaque, and others, e.g., the Kaolin silicate paint, are semi-translucent, though there is a tendency for opacity to increase with age. Lack of opacity is not necessarily a disadvantage, as there is a tendency to apply such paints more liberally. The fire-retardant property of a film is almost directly related to its thickness, and usually two coats must be applied to obtain sufficient thickness for the paint to comply with the specification. Some paints, however, may be applied in sufficient thickness in one coat. The total amount of paint required for effective treatment is usually from 0.05 to 0.10 lb. of paint per sq. ft. of surface treated. The consistency of the paint should be such that it can be applied in the maximum thickness and yet be easily worked. If difficulty in application is experienced, these paints can be thinned with water, but care should be taken not to do so to such an extent as to reduce the thickness of the applied film.

The test specified in BS/ARP 39 is a comparative one. Paints that compare favourably with the standard paint, under specified conditions, are said to pass the test. The composition of the standard is as follows:—

Sodium silicate	112 lb.
Kaolin (china clay)	150 lb.
Water	100 lb.

These quantities make 24 galls. of paint, sufficient to treat 600 sq. yd. Certain proprietary paints in this class have been tested and have been found to conform with the specification.

CLASS 2.—CALCIUM SULPHATE COATINGS.

These coatings consist essentially of calcium sulphate plaster, with the addition of materials for the adjustment of setting and to assist adhesion to the wood. They differ from the silicate type in that the resulting film is much thicker. Nevertheless, they can be applied easily by brush or spray. They are supplied in powder form and made to the correct consistency by the addition of water. For effective results the thickness of the coating should be 1/32 in. to 1/16 in.

Certain proprietary calcium sulphate coatings have been tested and have been found to conform with BS/ARP 39.

Note.—Generally speaking, the materials in both the above-mentioned groups adhere satisfactorily to the wood, but being water paints adhesion is not so good as with an oil paint. The amount of water absorbed by the wood from these paints is not sufficient to cause serious movement or decay of the structural timbers in normal roof spaces. None of the paints so far tested is satisfactory for external timbers exposed to the weather. The directions given by the manufacturers of proprietary paints must be carefully followed.

Books on Quantity Surveying.

By arrangement with Messrs. Crosby Lockwood, Ltd., the distribution of "Elements of Quantity Surveying" and "More Advanced Quantity Surveying," by Mr. Arthur J. Willis, F.S.I., discontinued as the result of damage by enemy action, is being continued temporarily by the author. Copies of "More Advanced Quantity Surveying," with portfolio of plates, are available on application at his office at 3, Denbigh-road, West Ealing, London, W.13, price 21s. (by post 21s. 8d.), or may be ordered through *The Builder*. A new edition of "Elements of Quantity Surveying," the preparation of which was suspended, is now being completed and will be available shortly.

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LONDON MASTER BUILDERS' ASSOCIATION

FORMATION OF AREA COMMITTEES.

The Council of the London Master Builders' Association has decided, having regard to its rapidly increasing membership, that the objects of the Association will be more fully achieved by the establishment of committees which have been set up in the following areas:—

Northern.

Chairman: Mr. F. W. Stratton (Henry Knight & Son). Senior Vice-Chairman: Mr. R. J. Rowley (R. J. Rowley, Ltd.). Hon. Secretary: Mr. S. A. Stratton (Henry Knight & Son), 16, Bruce-grove, Tottenham, N.17.

Area: Barnet, Cheshunt, Elstree, Edmonton, Enfield, Finchley, Hendon, Hornsey, Potters Bar, Southgate, Tottenham, Waltham Cross, and Wood Green.

North Eastern.

Chairman: Mr. J. H. Rooff (J. and R. Rooff, Ltd.). Hon. Secretary and Treasurer: Mr. Geo. Maynard (W. J. Cearns, Ltd.), Messrs. W. J. Cearns, Ltd., Carpenters-road, Stratford, E.15.

Area: Barking, Chadwell Heath, Chigwell, Chingford, Dagenham, East Ham, Hornchurch, Ilford, Leyton, Romford, Stratford, Walthamstow, and West Ham.

South Eastern.

Chairman: Mr. J. W. Ellingham (J. W. Ellingham, Ltd.). Vice-Chairman: Mr. R. B. Smith (Wm. F. Blay, Ltd.), Mr. E. J. Webb, and Mr. C. B. Keenan (Kent and Sussex Contractors, Ltd.). Hon. Treasurer: Mr. R. C. Hammett. Hon. Secretary: Mr. W. H. Gough Cooper (Gough Cooper & Co., Ltd.), Wilmington House, Wilmington, Kent.

Area: Bexley, Bromley, Chislehurst and Sidcup, Crayford, Dartford, Erith, Orpington.

South Western.

Chairman: Mr. G. T. Crouch (the Parker Construction Co., Ltd.). Senior Vice-Chairman: Mr. S. J. Gaze (W. H. Gaze & Sons, Ltd.). Junior Vice-Chairman: Mr. W. J. Lacey (Wm. Lacey (Hounslow), Ltd.). Hon. Treasurer: Mr. E. A. Thorogood (Thorogood & Sons). Hon. Secretary: Mr. C. J. Blyth, 29, Egerton-road, New Malden, Surrey.

Area: Barnes, Brentford and Chiswick, Esher, Feltham, Heston and Isleworth, Kingston, Malden and Coombe, Merton and Morden, Richmond, Sunbury-on-Thames, Surbiton, Twickenham, Wimbledon.

North Western.

Chairman: Mr. D. F. Cox (Haymills (Contractors), Ltd.). Senior Vice-Chairman: Mr. W. S. Try (W. S. Try, Ltd.). Junior Vice-Chairman: Mr. C. L. Bailey (J. Lawson & Co., Ltd.). Hon. Secretary and Treasurer: Mr. C. Grainger (Grainger & Apthorpe), 202, Northolt-road, Harrow, Middlesex.

Area: Acton, Bushey, Ealing, Harrow, Hayes and Harlington, Northwood, Pinner, Southall, Uxbridge, Watford, Wembley, Willesden, Yiewsley and West Drayton.

Regular meetings will be held in each area, when ample opportunity will be afforded for discussion of local and individual problems.

It is also felt that under this scheme members will be kept closely in touch with the Association and with the negotiations and problems which affect all builders under present conditions, as each area will have direct representation on the Council.

"The Building of a New Britain."

Under this title, the Building Industries National Council has issued a 16-page booklet by Mr. B. S. Townroe, D.L., J.P., Hon. A.R.I.B.A., the purpose of which is to show the magnitude of the post-war building problem and the work which B.I.N.C. has done and is doing to prepare the industry as a whole for that task. The author urges that the greatest need will be the elimination of "coercive arbitrary and negative regimentation" by Government Departments and the freeing of the industry from unnecessary control. Mr. R. Coppock, President of the Council, contributes a Foreword to the booklet.

FIRE STOPS FOR TIMBER ROOFS

W.T.B. BULLETIN NO. 18.

THIS bulletin—issued by the Department of Scientific and Industrial Research (Stationery Office, 1s. net)—discusses simple structural devices that can be erected to check the spread of fires along existing roofs which consist wholly or in part of timber or other combustible material. Four types of fire-stop, differing only in detail, are described, and an account is given of tests carried out on two of them, together with general recommendations. The work was carried out at the instance of and in collaboration with the Fire Prevention Executive and the Ministry of Aircraft Production; the bulletin is published after consultation with the Fire Prevention Executive.

The roofs employed in the tests were small ones, but the effective manner in which the fires were stopped in the tests, in which the roof covering in one case was of bituminous felt, gives every reason to believe that the devices would provide a useful check on large roof structures. It is to be noted that the primary object of the devices is to delay the spread of fire along timber roofs and to provide rallying points for fire-fighters where active measures would be particularly effective. In certain circumstances, for instance, where the fire is not too intense, the stops might prevent the spread of fire completely. It must be emphasised, however, that the suggested provision of fire-stops is not intended as a justification for any reduction in the strength of fire-bomb parties. In buildings equipped with automatic sprinkler installations, an improvement in the protection can be made by fitting sprinkler heads in positions to play upon the roof timbers in the neighbourhood of the fire-stop.

Tests on Roofs Fitted with Fire-Stops.

Two tests were carried out on roofs 20 ft. long by 10 ft. span, supported on side walls of brickwork 5 ft. high. Both ends of the structure were left open. The building ran north and south. In the first of these tests the roof, consisting of ⅝-in. boarding on rafters, was covered with slates, and all exposed timber on the underside of the north half was given two coats of fire retardant paint. In the second test the roof was of similar construction, but the roof covering was of bituminous felt, and none of the timber was treated with fire-retardant paint.

Each roof was provided with a fire-stop midway between its ends. The general design of these fire-stops is shown in Fig. 1. The south end of the roof was set alight and observations made of the behaviour of the roof-stop. A stream of air from a fan was directed on to the fire in the direction of the fire-stop.

Each of the fire-stops tested prevented the fire from spreading to the second half of the roof. Fig. 4 shows the roof after Test No. 1, and Fig. 5 the roof after Test No. 2. Whilst every effort was made to encourage the fire, the flames from so small a structure were not large. It is important to note that in an actual fire, if the floor under the roof is stacked with large quantities of combustible material and ablaze, it is not thought that the fire-stops would be effective in saving any part of the roof. It often occurs, however, that a fire starts in the roof, spreads rapidly along the structure, and the falling brands from the roof timbers ignite the combustible material below. In such a case the fire-stops should be of assistance to the fire-fighters in their attempts to limit the spread of the fire.

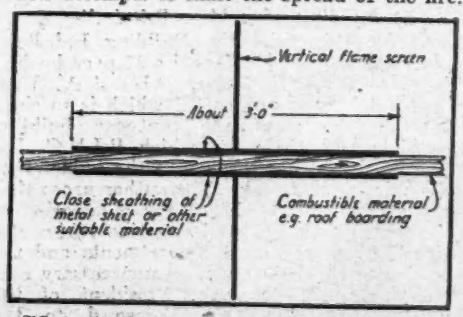

FIG. 1.—DIAGRAM SHOWING GENERAL DESIGN OF FIRE STOPS.

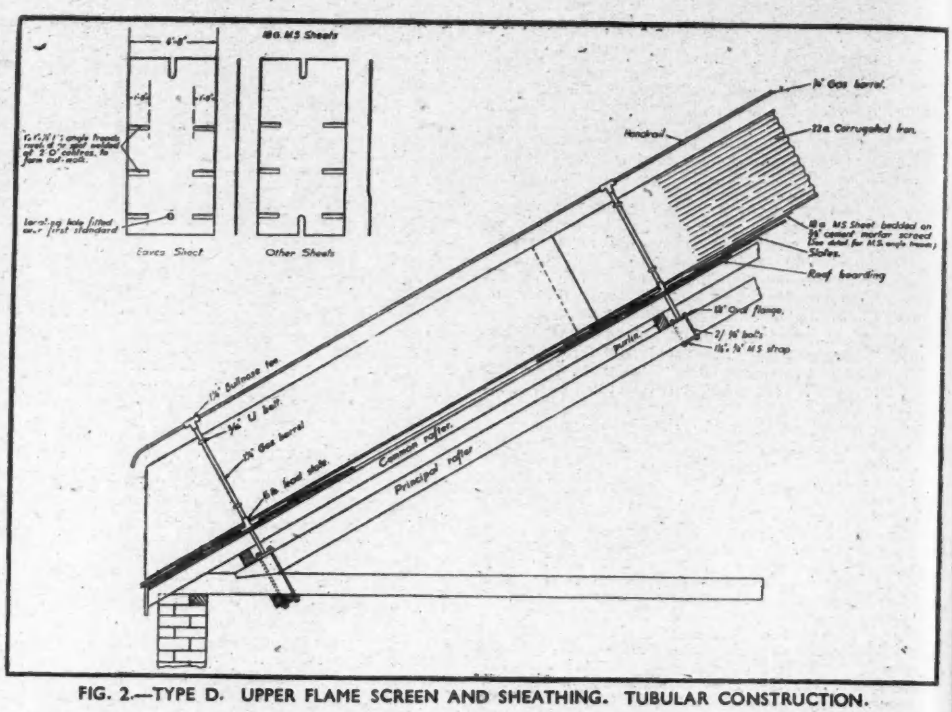

FIG. 2.—TYPE D. UPPER FLAME SCREEN AND SHEATHING. TUBULAR CONSTRUCTION.

General Recommendations.

It is thought that Type D upper sheathing and flame screen (see FIG. 2) is the most economical and most easily erected of the various types of upper flame-screen. The height of the screen should not be less than 2 ft. and should preferably be 3 ft. The bedding of the sheathing on top of the bitu-

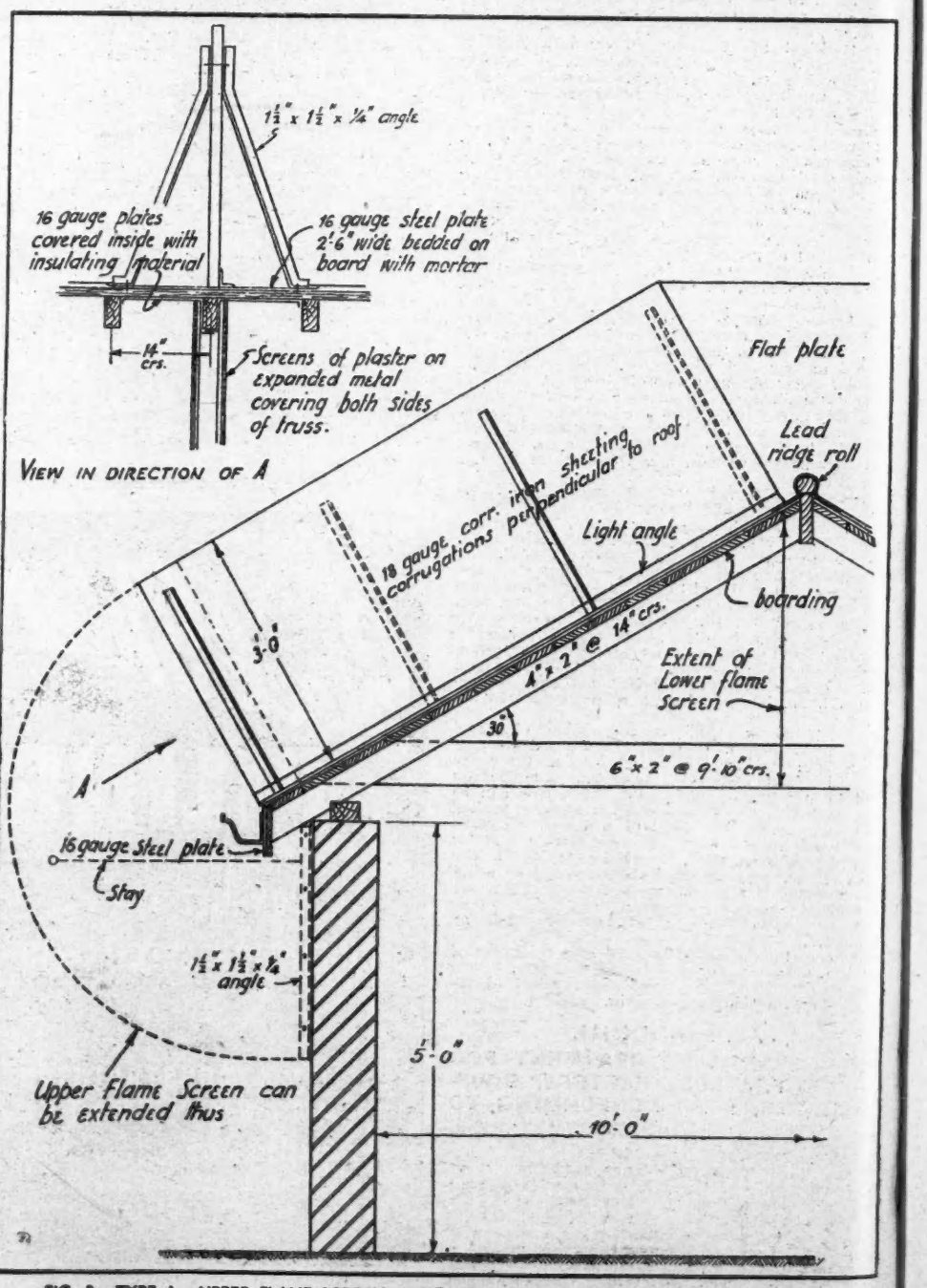
1½" x 1½" x ¼" angle
16 gauge plates covered inside with insulating material
16 gauge steel plate 2'-6" wide bedded on board with mortar
14" crs.
Screens of plaster on expanded metal covering both sides of truss.
VIEW IN DIRECTION OF A
Flat plate
Lead ridge roll
18 gauge corr. iron sheeting corrugations perpendicular to roof
Light angle
boarding
3'-0"
4" x 2" @ 14" crs.
Extent of Lower flame Screen
30°
6" x 2" @ 9'-10" crs.
A
16 gauge steel plate
Stay
1½" x 1½" x ¼" angle
Upper Flame Screen can be extended thus
5'-0"
10'-0"

FIG. 3.—TYPE A. UPPER FLAME SCREEN AND SHEATHING (AS EMPLOYED IN TEST No. 1).

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FIG. 4.—VIEW OF ROOF AFTER TEST No. 1.

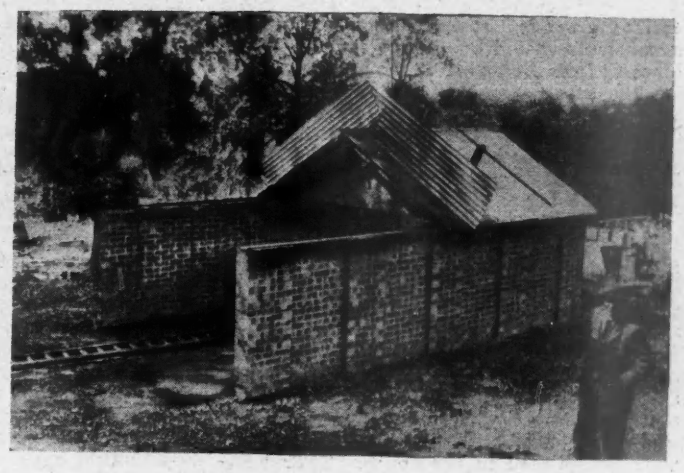

FIG. 5.—VIEW OF ROOF AFTER TEST No. 2.

minous felt covering, as in Test No. 2, was satisfactory, and it is thought that the same method could be adopted with slates. Where the roof covering consists of tiles, however, it is suggested that the tiles should first be removed, and then either bedded in cement mortar on the roof boarding before the sheathing is applied, or else the sheathing bedded in mortar direct on the boarding as in Test No. 1. The handrail incorporated in some of the types would be of value to fire-fighters climbing over the roof. It is desirable that the upper flame-screen be continued around the eaves as indicated by dotted lines in Fig. 3.

The lower flame-screen should be as deep as possible; the ideal is to extend it to the floor below. It should in any case extend to the level of the underside of the wall-plates. In large roofs where, from considerations of expense and convenience, it is not possible to put these recommendations into effect, it is suggested that the screen should be made as deep as possible (3 ft. at the very least), and that its lower edge should be parallel to the pitch of the roof. Any exposed timber members immediately below the screen should then be protected by a covering of slag wool, asbestos rope, asbestos millboard, plaster on metal lath or other suitable material.

The lower sheathing should be as wide as possible. It should at least extend to, and cover, the rafters adjacent to the one on which the fire-stop is erected. If the lower sheathing, or some equivalent protection, can be carried down to the eaves, so much the better.

All exposed timber on the underside of the roof should be coated with a fire-retardant paint satisfying the requirements of BS/A.R.P.39. [See p. 399.—Ed.] Timber so coated is more difficult to ignite, and it takes a more intense fire to set it alight than would be the case with untreated timber.

Fire-stops as described would be erected at intervals along the roof. The positions of the fire-stops in each individual case would have to be selected after careful consideration of the many factors involved. These would include the importance of the building covered by the roof, either from the point of view of damage to contents or effect on output, the need for reducing the hazard to neighbouring buildings, and structural considerations such as the need for protecting bays containing wind bracing.

The spacing of the stanchions supporting the upper flame screen must be chosen to suit each particular type and size of roof. They should be sufficiently closely spaced to give adequate support to the flame-screen against wind pressure.

Asbestos-sheeted Roofs.

In a notice published in the Press over the signature of the President and Secretary, the Huddersfield branch of the N.F.B.T.O. "draw the attention of all building trade workers to the number of serious accidents which have occurred on asbestos-sheeted roofs. They request all roof-workers to take particular care, and to have all jobs safely scaffolded. The only safe way is to treat the asbestos-sheeting as glass, and it should be scaffolded accordingly."

GREATER LONDON MASTER BUILDERS

FEDERATION'S THIRD QUARTERLY LUNCH.

A PERSONAL hope that the London Master Builders' Association and the Federation of Greater London Master Builders might amalgamate in the service of the industry was expressed by MR. GEORGE HICKS, M.P. (Parliamentary Secretary to the Ministry of Works), at the third quarterly lunch of the Federation, held on October 23, at the Connaught Rooms. MR. A. N. DOVE, J.P., L.C.C., M.I.O.B. (President), was in the chair.

Master builders, said Mr. Hicks, were custodians of a great industry, and bore a very great responsibility for its welfare. "All my life," he added, "I have been an amalgamationist, and I cannot see just how it is necessary to have two or three organisations to serve one part of the industry. Some time in your great wisdom and experience you will, I am sure, recognise the necessity of collaboration, or, if I may use a Government word, co-ordination."

His Minister, Lord Reith, looked on building employers as an organisation which had capacity, ability and a willingness to serve the country's interests. He (the Minister) had asked him to convey his regards and respects to the Federation for what it had done and what it was willing to do. "In the big task facing the country," declared the Parliamentary Secretary, "man-power has to be rationed and applied first to the immediately essential works that have to be done. Quite a number of services normally essential have had to be curtailed. Concentration of industry has been forced on us by hard necessity, and while I hope all the resources of the Federation in plant, organisation and effort will be used to the country's good, there may be some disappointment. Should this happen, then I beg you to stand it with the stoicism that distinguishes Britishers."

The Ministry were engaged on things to win the war—and win the war we should—and the Minister himself was doing all he could to see that after the war planning conditions in towns, villages and industry were efficient, and that the people of our country should thus have the door of opportunity opened to them.

MR. W. M. BRAND proposed a vote of thanks to Mr. Hicks.

The company present included: Major-General K. C. Appleyard, C.B.E. (Director of Emergency Repairs); Mr. J. M. Wilson, A.R.I.B.A. (Assistant Director of Emergency Repairs); Mr. Edward Maufe, A.R.A., V-P.R.I.B.A.; Major-General H. C. Cole, C.B.E., P.S.I.; Col. F. N. Falkner, O.B.E., F.S.I. (Chairman of the Quantity Surveyors' Committee, C.S.I.); Mr. C. C. Trollope, F.I.O.B. (President of London Master Builders' Association); Mr. W. E. Rice, F.I.O.B. (vice-president, L.M.B.A.); Mr. R. Coppock (General Secretary N.F.B.T.O.); Mr. V. T. Sulston (London Regional Secretary, N.F.B.T.O.); and Mr. T. W. Saint (President) and Mr. T. E. Beale (Immediate Past President of the Islington Chamber of Commerce). Over 400 members and the following officers were present, together with the whole of the Council: Mr. H. J. Goodman (Chairman of the Council), Mr. W. F. Ball (Vice-Chairman), and Mr. L. B. Venning (representing the Secretaries—Newton, Bruce, Venning and Co., Chartered Accountants).

COUNCIL'S REPORT.

The Report of the Council was subsequently presented at the Third Quarterly General Meeting by the Chairman of the Council. Following are points:—

MEMBERSHIP.—The most stringent examination of applications for membership to the Federation still exists, and many applicants had reluctantly had membership refused on

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various grounds. It had been agreed that membership should be open to suitable applicants as from December 1, the applicant paying the subscription for 1942, which, it was anticipated, would be three guineas, and thereby obtaining the last month of the current year free of subscription. The membership to date numbers 650, and applications were still being received.

AREA ORGANISATION.—Territory covered by the London Civil Defence Region north of the Thames had been divided for the purpose of organisation into twenty-six areas, and in the majority of these there were already Chairmen and Committees functioning. Efforts were still needed in further development of the Northern Area, and until such time that the Council was of opinion that they had that area properly organised, their activities would not be diverted to detailed machinery being established in the South. They were already making contact South of the Thames, and it was anticipated that during the first six months of the new year a concerted effort would be made to achieve the highest standard of organisation in that area which they had in the North.

GOVERNMENT REGISTRATION.—Now that registration had become an accomplished fact it would be appreciated that, dealing with a vast number of builders who had not previously in any way been bound by an obligation, many difficulties had arisen in their complying with the terms of the undertaking which everybody was compelled to give when completing registration forms. In London, the Working Rule Agreement had become the guiding principle of every builder, and, as was to be expected, there were still many firms outside any organisation who did not understand or appreciate the obligations they accepted when registering. The Council could not emphasise too strongly the necessity for every member maintaining rigidly the terms of the agreement, as deviation in any respect might cause the loss of the business.

WORKING RULE AGREEMENT.—This is undoubtedly a cumbersome document, not only in theory but in practice, to the smaller builder, and it was felt that there were many provisions which could definitely be modified to meet the circumstances of the smaller firm. It was no doubt appreciated that this Agreement is varied and amended yearly, and before the existing Agreement expired early in 1942 the Council would consider making many representations for variation of clauses and terms contained therein.

LONDON BUILDERS' EMERGENCY ORGANISATION.—While the value of this organisation was not appreciated by all builders, it must be realised that it was set up purely as a voluntary organisation mainly for the purpose of achieving the object of winning the war.

PRIME COST CONTRACT.—This contract, as it at present existed, had been reviewed from time to time by the Council, and, having regard to the date it was drawn, it was felt, with the general increase in overhead expenses and costs in every way, that the contract in its present form was out of date. The matter of revision of the contract was under consideration by a committee of the industry, and the Council was endeavouring to obtain representation upon that committee in order that certain facts and figures which were not available to those who represented the main interests on this committee could be placed before it. It had long been felt by the Council that what they would term "the small jobbing builder" could not hope to earn a livelihood having regard to the present level of expenses from the return obtained under the existing contract.

DEBT-COLLECTING DEPARTMENT.—The facilities available through this Department were every day being made increasing use of by members, and for the small registration fees payable the services available were appreciated by a great number.

London Master Asphalters' Association, Ltd.

The offices of this Association have been transferred to 86-88, Queen Victoria-street, E.C.4. Mr. J. Duncan Ferguson, F.C.A., has been appointed hon. secretary. Telephone: City 1067.

VALUE PAYMENTS FOR WAR DAMAGE

EFFECT OF RESTRICTIVE COVENANTS.

THE War Damage Commission issues the following statement on "The Effect of Restrictive Covenants, Easements and other Incidents on the Amount of a Value Payment":

Some doubt has been expressed as to the correct meaning to be attached to the words "at that time" in line 13 of Section 3 (5) of the War Damage Act, 1941.

In general terms, the amount of a value payment is computed as the difference between the values of the fee simple in the hereditament in the physical state in which it was immediately before and immediately after the war damage respectively, these values being taken to be the market value obtainable on hypothetical sales on March 31, 1939, with vacant possession.

The point on which doubt has arisen is whether, for the purpose of these valuations, the restrictive covenants, easements and other incidents are to be assumed to be those attaching immediately before and immediately after the damage respectively, or on the date of the hypothetical sales—namely, March 31, 1939. The War Damage Commission has now decided in favour of the former alternative. The Commission's forms ask for particulars of the incidents existing on March 31, 1939. Arrangements are being made to correct this in future issues.

Where claims have already been lodged on existing claim forms, the claimant will be asked, before a final determination of the amount of the value payment is made by the Commission, whether there was any change in the incidents between March 31, 1939, and the date of the war damage.

OFFICIAL NOTIFICATION

SCHEDULING OF SLATE QUARRY INDUSTRY.

The Ministry of Works and Buildings announces that the Minister of Labour and National Service has brought the slate quarry industry within the field of industries to which the Essential Work (General Provisions) Order, 1941 (copies of which can be obtained from H.M. Stationery Office—S.R. & O. 1941, Nos. 302 and 1051) is being applied. Individual quarrying undertakings have been recommended for scheduling by the Ministry.

Slate quarry owners are reminded that under the provisions of the Order:—

(*a*) Terms and conditions of employment must be not less favourable than those generally recognised in the industry.

(*b*) A guaranteed wage must be provided for all workers who are capable of and available for work. For piece-workers the guaranteed wage is the day rate for the man's class.

(*c*) No employee may be discharged (except for serious misconduct), and no employee may leave his employment unless the permission of a national service officer has been given in writing.

IN PARLIAMENT

Salvage of Railings.

MR. TEMPLE MORRIS asked the Parliamentary Secretary to the Ministry of Works and Buildings whether, in view of the appeal of the Minister for railings, he was aware that the public would respond more readily if they saw a serious attempt being made to clear up the iron and steel debris in bombed buildings in all our cities hitherto attacked; and whether, to remove the impression that such clearance was insufficiently rapid, he would welcome communications setting out the spots where greater activity would be appreciated.

MR. HICKS said that effective arrangements had been in existence during the last ten weeks for the salvage from bombed buildings of all steel and iron, and in this time approximately two-thirds of the estimated total amount available had been dealt with. Nevertheless, he would welcome information from anyone who would be good enough to tell him where the work did not seem to be going fast enough. He would add his appreciation of the way in which the public generally was responding to the call for iron railings.

Timber from Bombed Buildings.

SIR THOMAS MOORE asked the Parliamentary Secretary to the Ministry of Works and Buildings why much of the salved, but worthless, timber now stacked in places under his control was not either being distributed free or sold to poorer people in anticipation of fuel shortage during the winter.

MISS WILKINSON, who replied, said that timber from demolished buildings, which was not usable for any purpose other than kindling, was available to the public free of charge. Local authorities were empowered as long ago as December, 1940, to make arrangements whereby householders could be enabled to collect such firewood for their personal use. In many areas, however, the public had not taken advantage of the facilities offered, and the Minister recently suggested to local authorities that where dumps were not being cleared quickly they should consider the distribution of firewood to consumers' doors for a small charge to cover the costs involved.

TRADE NEWS

The Uses of Expanded Rubber.

Expanded rubber and rubber compounds in various forms are a fairly recent innovation in the industrial world, and their uses as insulation in the building industries are as yet not fully explored, though time may show that this field is immense. Briefly, these materials consist of rubber compounds subjected to expansion by a gas, and roughly fall into two classifications—the hard expanded ebonite type, and the soft resilient form.

From details which reach us from the Expanded Rubber Co., Ltd., it appears that in every case these compounds consist of gas-expanded rubber comprising minute non-intercommunicating cells, each sealed by rubber compound membrances. They show a very high thermal insulating efficiency and complete resistance to moisture and bacteria. Additionally they are extremely light in weight. They can be made down to a density as low as 3½ lb. per cu. ft., and have amazing buoyancy properties (1 cu. ft. is able to support 56 lb. of iron in salt water). "Onazote," the hard expanded ebonite material, can also be laminated between plywood or metal, thereby producing what can be claimed as the lightest material for its weight in existence.

It is highly probable that only the fringe of a very wide field for expanded rubber has so far been touched. Uses already devised or in operation for the ebonite variety ("Onazote") or the resilient type ("Rubazote") in construction are as insulation, both for buildings and refrigeration; in A.R.P. as sealing material for gas chambers, or gas-proof shelters; as draught excluders; and as expansion road jointing. The field must, however, be wider still, and firms or persons interested in the possibilities of these materials are invited to write to the company at 675, Mitcham-road, Croydon, Surrey.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders: a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING.

NOVEMBER 3.

Welwyn Garden City U.D.C.—Decontamination and rescue party depot. W. E. James, Eng. and Sur. Dep. £2 2s.

Whitehaven T.C.—Conversion of Trinity School into British Restaurant. Boro. Sur.

NOVEMBER 5.

Cheadle and Gatley U.D.C.—Erection of sub-station. G. P. Stanley, Acting Eng. and Sur. Dep. £1 1s.

Crayford U.D.C.—Strengthening of surface shelters. Eng. and Sur.

Surbiton T.C.—Strengthening and improvement of eight public surface shelters. Boro. Eng. and Sur. Dep. £1 1s.

Sutton Coldfield T.C. — Gas cleansing station. Boro. Sur. Dep. £2 2s.

NOVEMBER 6.

Ilford T.C.—Replanning of existing canteen kitchen and construction of dining-room. Boro. Eng and Sur. Dep. £3 3s.

Leeds T.C.—Corridor and shelters at St. James' Hospital. W. S. Cameron, City Eng.

NOVEMBER 7.

Hornchurch.—Cleansing stations. D. E. Hart, Sur. Dep. £1 1s.

NOVEMBER 8.

Leatherhead U.D.C.—Construction of 100 timber table shelters. Eng and Sur. Dep. £1 1s.

West Riding C.C.—Pointing of brickwork at Ryhill school. Divisional Clerk for Education, 8, St. John's North, Wakefield.

NOVEMBER 11.

Huddersfield T.C.—War-time nursery at Princess Royal Maternity Home. Boro. Eng. and Sur.

NOVEMBER 12.

Rochdale.—Adaptation of premises as police garage. Boro. Sur.

NOVEMBER 13.

Stratford-on-Avon R.D.C.—Reconstructing garage roof at depot, Tyler-st. Sur.

Welton R.D.C.—Brick building with flat concrete roof. Elliott and Brown, Chartered Civil Engineers, Stanley House, Pelham-rd., Nottingham. Dep. £3 3s.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

NOVEMBER 3.

West Riding C.C.—Internal and external painting of Burnley-rd., school, Mytholmroyd. J. H. Crabtree, Education Offices, Allan House, Sowerby Bridge.

NOVEMBER 5.

Leeds T.C.—Exterior painting work at North Lodge. Walter Jones, Director of Public Assistance, 11, South Parade.

NOVEMBER 13.

***Prestwich.** — Interior painting County Mental Hospital. A. R. Dowling, Clerk and Steward, County Mental Hospital, Prestwich.

ROAD, SEWERAGE AND WATER WORKS.

NOVEMBER 3.

Luton T.C.—Static water supply reservoir in reinforced concrete. Boro. Eng. and Sur. Dep. £2 2s.

NOVEMBER 5.

Ashton-under-Lyne T.C.—Part construction of Cranbourne-rd. Boro. Sur.

Ashton-under-Lyne.—Part construction of Smallshaw-la. Boro. Sur.

NOVEMBER 7.

Erith T.C.—48 entrance covers for public shelters. J. H. Clayton, Boro. Eng. and Sur. Dep. £1 1s.

NOVEMBER 8.

Clogher R.D.C. — Laying of 3½ miles of water main, erection of reservoir, and installation of additional filter shell. J. P. Rush, Market-sq., Dungannon.

Downpatrick R.D.C.—Laying water main in Castlewellan. Engineer, 24, Arthur-st., Belfast.

NOVEMBER 12.

Cheadle R.D.C.—Laying of approx. 1,020 yds. of 4 in. dia. spun-iron water main. Eng and Sur. Dep. £1 1s.

PUBLIC APPOINTMENTS.

NOVEMBER 7.

Coventry T.C.—Temporary Engineering Assistant. E. H. Ford, City Eng. and Sur.

NOVEMBER 10.

Bethnal Green B.C.—Deputy Borough Engineer and Surveyor. S. P. Ferdinando, Town Clerk.

NO DATE.

***War Dept.**—Civilian Garrison Engineer, Chief Engineer, Headquarters Eastern Command, Home Forces.

A.R.P. SCHEMES

LONDON.

Croydon. — Two shelters to be erected at Selhurst Grammar Schools for Boys and Girls, at £270. Plans by Architect-in-charge.

Hampstead.—T.C. to strengthen 74 surface shelters, at £8,178.

Heston and Isleworth. — T.C. accepted £1,249 tender (revised) of James Couper and Co., for strengthening eight trench shelters with timber.—T.C. to adapt Salvation Army Citadel at Inwood-rd. as rest and feeding centre.

Holborn.—B.C. to spend £1,000 on blast wall protection of premises as reserve town hall.

Lewisham.—A £905 tender of Wates, Ltd., has been accepted by B.C. for shelters at two boys' and girls' club premises in the borough. A full list of tenders is on page 408.—B.C. has placed a contract with T. W. Driver, Ltd., at £658, for erection of water-borne lavatory accommodation at public shelters. Tender list on p. 408. Henry Kent, Ltd., to carry out constructional work, at £166, at Downham depot.

Romford.—Plans have been submitted by T.C. to the Essex County for providing separate undressing places for the sexes, overhead protection and increased supply of hot water at first-aid posts, at £3,325.—Communal brick shelters are to be provided in six roads to plans by Boro' Sur.—Two basements to be adapted as static water tanks, at £166 10s.

St. Pancras. — Regional Commissioner approved installation of water-borne sanitation in surface shelters, at £1,678.—B.C. have placed following contracts: Adaptation of swimming-bath as gas cleansing station, Albert Monk, £394; structural alterations to form first-aid post and cleansing unit at Royal Veterinary College, A. J. Thompson and Co., Ltd., £311; hot-water installation at first-aid post, Royal Veterinary College, J. Bolding and Sons, Ltd., £131 15s. 6d.

Wembley.—For two buildings at laundries for decontamination, for T.C., contract placed with Comben and Wakeling, at £241.

FEDERATED EMPLOYERS' INSURANCE ASSOCIATION LTD. ESTABLISHED 1904

The Leading Office for

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ALSO

FIRE
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23, Lawrence Lane, Cheapside, London, E.C.2

—T.C. to provide brick bins at public shelters, at £700.—T.C. to strengthen 330 further communal shelters.—T.C. placed £930 contract with Circle Construction Co., for shelters at two day nurseries.

Wood Green.—T.C. approved plan submitted by Mr. A. F. Bailey for surface shelters at Palace Gates sidings.—T.C. accepted tenders for strengthening public surface shelters as follows: Group A, G. Groves and Sons, £1,396; Groups B and C, Ernest Knifton, Ltd., £3,431.—T.C. accepted tenders from J. H. Lambeth (£190) and E. and A. Jenkins, Ltd. (£275) for permanent repairs to houses.

PROVINCIAL.

Corby.—U.D.C. to construct water-basin.

Dewsbury. — T.C. to erect additional 15 public communal shelters on selected sites. Plans by F. W. Forward, Boro' Architect.

Durham. — County E.C. have placed contracts with J. J. Walton, Thornley, at £659 13s., and H. F. Mole, Chester-le-Street, at £693, for completion of school shelters.

Gateshead.—T.C. received sanction to spend £419 for provision of splinter-proof protection at Sheriff Hill hospital.

Hyde.—T.C. propose improvement and strengthening of existing communal and public shelters. Plans by T. H. Higson, Boro' Sur.

Kettering.—T.C. to instal electric heating apparatus for shelters, at £1,485.

Leeds.—T.C. has accepted tender of Woolman Electrical Contractors, Ltd., 6, Wetherby-rd., Oakwood, nr. Leeds, at £2,382, for installing electric light in dormitory shelters at emergency feeding and rest centres. W. S. Cameron, The Civic Hall, is City Eng.

Lincolnshire (Kesteven Div.).—C.C. propose additional shelters in conjunction with the Grantham T.C. Plans by C. B. Metcalfe (F.), County Architect, County Offices, Sleaford.

Macclesfield. — T.C. propose additional communal brick and concrete shelters, also alterations and strengthening of existing communal domestic shelters, at £14,000. Plans by M. Tetlow, B.A. (A.), Boro' Architect, Pear Tree House, Jordangate.

Manchester.—Shelter accommodation to be provided for ambulatory patients at Baguley Sanatorium, also decontamination facilities at Abergele Sanatorium, N. Wales.

Middlesbrough. — H. G. Sproates, Ltd., Middlesbrough, have secured contract for electrical installations at four combined rescue party posts and clearing stations.—T.C. have placed contract with Stephen Coates, Ltd., Middlesbrough, for four combined rescue party stations and clearing stations and one first-aid post.

Milnrow. — U.D.C. propose extensions to existing Anderson shelters.

Nantwich.—E.C. approved plans for additional shelters at Nantwich and Acton Grammar School for Board of Governors, at £400.

Newcastle-on-Tyne. — Corporation to erect cleansing stations at Bentinck-rd. Plans by R. G. Roberts, City Architect.

Salford. — T.C. to spend £2,000 on blast walls at a power station.

Salford.—E.C. propose additional shelter accommodation at four schools, at £2,900. Plans by W. A. Walker, Boro' Eng.

Swinton and Pendlebury. — E.C. propose installing electric power at Birchfields and Town Hall shelters, also feeding facilities at Victoria Park shelters. Lighting and heating of dormitory shelters.

Tynemouth.—E.C. asking B. of E. to approve revised estimate at £21,111 for strengthening school trench shelters, and £7,800 for similar work at surface shelters.—T.C. to spend £733 on strengthening of central police station.

Wellingborough. — National Fire Service Committee propose secondary control-room at central fire station.

West Lancashire.—R.D.C. propose 12-person communal shelters at Sefton and Ince Blundell. Plans by R. Rosbotham, Sur., Council Offices, Derby-rd., Ormskirk.

Wirral. — U.D.C. propose five 48-person communal shelters and two 24-person shelters on selected sites. Plans by H. Nixon, Sur., Council Offices, Heswall, Birkenhead.

SCOTLAND.

Glasgow.—A. M. MacDougall and Co., Ltd., Glasgow, have secured contract for reservoir, the engineer being Mr. Thomas Somers.—C. B. Mathieson, Glasgow, to carry out contract, at £324 14s. for decontamination station at hospital.

Meiklewood. — John Drysdale and Co., Ltd., Glasgow, have secured contract for reservoir to plans by Thomas Somers, Eng., Municipal-bldgs., Glasgow.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st JUNE, 1941

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/10½	1/5¾
Aberdare	1/10½	1/5¾
Abergavenny	1/10½	1/5¾
Abingdon	1/9	1/4½
Accrington	1/10½	1/5¾
Aldeburgh	1/7	1/3
Aldershot	1/9	1/4½
Alfreton	1/10½	1/5¾
Alnwick	1/10	1/5¼
Altrincham	1/10½	1/5¾
Amble	1/10	1/5¼
Amersham	1/9	1/4½
Ammanford	1/10½	1/5¾
Andover	1/8½	1/4¼
Ardingly	1/8½	1/4¼
Arundel	1/8½	1/4¼
Ascot	1/8½	1/4¼
Ashby-de-la-Zouch	1/10½	1/5¾
Ashford (Kent)	1/8½	1/4¼
Ashford (Middlesex)	1/10½	1/5¾
Ashington	1/10	1/5¼
Ashtead	1/10½	1/5¾
Ashton-under-Lyme	1/10½	1/5¾
Aylesbury	1/8½	1/4¼
Aylsham	1/7½	1/3½
Bagshot	1/8½	1/4¼
Banbury	1/8½	1/4¼
Barnsley	1/10½	1/5¾
Barnstaple	1/8½	1/4½
Barrow-in-Furness	1/10½	1/5¾
Barry	1/10½	1/5¾
Basingstoke	1/8½	1/4½
Bath	1/10	1/5¼
Batley	1/10½	1/5¾
Beaconsfield	1/9	1/4½
Beccles	1/7	1/3
Bedford	1/10	1/5¼
Berkhamsted	1/8½	1/4¼
Berwick	1/10	1/5¼
Beverley	1/10½	1/5¾
Bexhill-on-Sea	1/9	1/4½
Bideford	1/8½	1/4½
Biggleswade	1/8½	1/4¼
Billericay	1/8	1/3¾
Birchington	1/8½	1/4¼
Birkenhead	‡$2/0½	¶
Birmingham	†1/10½	1/5¾
Bishop Auckland	1/10½	1/5¾
Bishop's Stortford	1/9½	1/5
Blackburn	1/10½	1/5¾
Blackpool	1/10½	1/5¾
Blyth	1/10½	1/5¾
Bognor Regis	1/8½	1/4¼
Bolton	1/10½	1/5¾
Bournemouth	1/9½	1/5
Bracknell	1/8½	1/4¼
Bradford	1/10½	1/5¾
Bradford-on-Avon	1/7½	1/3½
Braintree	1/8½	1/4¼
Brentwood	1/10	1/5¼
Bridgwater	1/9	1/4½
Bridlington	1/10	1/5¼
Brighouse	1/10½	1/5¾
Brighton	1/9½	1/5
Bristol	1/10½	1/5¾
Broadstairs	1/8½	1/4¼
Bromsgrove	1/10	1/5¼
Buckley	1/10½	1/5¾
Bungay	1/6½	1/2¾
Burnham-on-Crouch	1/7	1/3
Burnley	1/10¼	1/5¾
Burslem	1/10½	1/5¾
Burton-on-Trent	1/10½	1/5¾
Bury	1/10½	1/5¾
Bury St. Edmunds	1/8	1/3¾
Buxton	1/10	1/5¼
Byfleet	1/9	1/4½
Cambridge	1/10½	1/5¾
Canterbury	1/8½	1/4¼
Cardiff	1/10½	1/5¾
Carlisle	1/10½	1/5¾
Carnforth	1/10½	1/5¾
Castleford	1/10½	1/5¾
Caterham	1/10½	1/5¾
Chard	1/7½	1/3½
Chatham	1/9½	1/5
Chelmsford	1/10	1/5¼
Cheltenham	1/9½	1/5
Chepstow	1/10	1/5¼
Chertsey	1/9½	1/5
Chester	1/10½	1/5¾
Chesterfield	1/10½	1/5¾
Chichester	1/8½	1/4½
Chorley	1/10½	1/5¾
Cirencester	1/8	1/3¾
Clacton	1/8½	1/4½
Clevelevs	1/10½	1/5¾

	Crafts-men.	Lab-ourers.
Clitheroe	1/10½	1/5¾
Cobham (Surrey)	1/9½	1/5
Colchester	1/10	1/5¼
Colwyn Bay	1/9½	1/5
Congleton	1/10	1/5¼
Coventry	1/10½	1/5¾
Cranbrook	1/8½	1/4½
Cranleigh	1/8½	1/4½
Crawley	1/8½	1/4½
Crewe	1/10	1/5¼
Cromer	1/7½	1/3½
Crowborough	1/8½	1/4½
Cuckfield	1/8½	1/4½
Darlington	1/10½	1/5¾
Darwen	1/10½	1/5¾
Daventry	1/9	1/4½
Deal	1/8½	1/4½
Denbigh	1/9½	1/5
Derby	1/10½	1/5¾
Devizes	1/7½	1/3½
Dewsbury	1/10½	1/5¾
Didcot	1/8½	1/4½
Diss	1/7	1/3
Doncaster	1/10½	1/5¾
Dorchester	1/8	1/3¾
Dorking	1/9	1/4½
Dover	1/8½	1/4½
Dovercourt	1/8½	1/4½
Driffield	1/9	1/4½
Droitwich	1/10	1/5¼
Dudley	1/10½	1/5¾
Dunstable	1/9	1/4½
Durham City	1/10½	1/5¾
Eastbourne	1/9½	1/5
E. Glam. (Mon. Val.)	1/10½	1/5¾
East Grinstead	1/8½	1/4½
Edenbridge	1/8½	1/4½
Ely	1/7½	1/3½
Epping	1/10½	1/5¾
Exeter	1/10	1/5¼
Exmouth	1/9	1/4½
Fakenham	1/7½	1/3½
Falmouth	1/9	1/4½
Fareham	1/9½	1/5
Faversham	1/8½	1/4½
Felixstowe	1/9½	1/5
Filey	1/9	1/4½
Fleetwood	1/10½	1/5¾
Flint	1/10½	1/5¾
Folkestone	1/8½	1/4½
Frinton-on-Sea	1/8½	1/4½
Frome	1/7½	1/3½
Gainsborough	1/9½	1/5
Gateshead	1/10½	1/5¾
Gillingham (Kent)	1/9½	1/5
Glossop	1/10½	1/5¾
Gloucester	1/10	1/5¼
Godalming	1/8½	1/4½
Goole	1/10½	1/5¾
Gosport	1/10	1/5¼
Grantham	1/9½	1/5
Gravesend	1/10	1/5¼
Great Yarmouth	1/8½	1/4½
Grimsby	1/10½	1/5¾
Guildford	1/8½	1/4½
Guilsborough	1/9	1/4½
Halifax	1/10½	1/5¾
Hanley	1/10½	1/5¾
Harpenden	1/9½	1/5
Harrogate	1/10½	1/5¾
Hartlepools	1/10½	1/5¾
Harwich	1/8½	1/4½
Haslemere	1/8½	1/4½
Hastings	1/8½	1/4½
Hatfield	1/10	1/5¼
Haywards Heath	1/8½	1/4½
Hednesford	1/10	1/5¼
Hemel Hempstead	1/9½	1/5
Henley-on-Thames	1/8½	1/4½
Hereford	1/8½	1/4½
Herne Bay	1/8½	1/4½
Hertford	1/10	1/5¼
Heysham	1/10½	1/5¾
Hitchin	1/9½	1/5
Hoddesdon	1/10	1/5¼
Holt (Norfolk)	1/7	1/3
Horley	1/8½	1/4½
Horsham	1/8½	1/4½
Horwich	1/10½	1/5¾
Huddersfield	1/10½	1/5¾
Hull	1/10½	1/5¾
Hunstanton	1/7½	1/3½
Huntingdon	1/8	1/3¾
Ilfracombe	1/8½	1/4
Ingatestone	1/9	1/4½
Ipswich	1/10	1/5¼

	Crafts-men.	Lab-ourers.
Isle of Thanet	1/8½	1/4½
Isle of Wight	1/8	1/3¾
Keighley	1/10½	1/5¾
Kenilworth	1/10½	1/5¾
Kettering	1/10½	1/5¾
Kidderminster	1/10	1/5¼
King's Lynn	1/8½	1/4½
Kirkham	1/10½	1/5¾
Knowle	1/10	1/5¼
Lancaster	1/10½	1/5¾
Leamington	1/10½	1/5¾
Leatherhead	1/9½	1/5
Leeds	1/10½	1/5¾
Leicester	1/10½	1/5¾
Leighton Buzzard	1/7½	1/3½
Letchworth	1/9½	1/5
Lewes	1/8½	1/4¼
Lichfield	1/9½	1/5
Lincoln	1/10½	1/5¾
Littlehampton	1/8½	1/4¼
Liverpool	‡$2/0½	¶
Llandudno	1/9½	1/5
Llanelly	1/10½	1/5¾
London—		
12m. radius	*2/0	1/6¾
12-15 m. radius	*1/11½	1/6¾
Long Eaton	1/10½	1/5¾
Longton	1/10½	1/5¾
Loughborough	1/10½	1/5¾
Louth	1/9	1/4½
Lowestoft	1/8½	1/4¼
Luton	1/10	1/5¼
Macclesfield	1/10	1/5¼
Maidenhead	1/9½	1/5
Maidstone	1/9	1/4½
Malvern	1/9	1/4½
Manchester	1/10½	1/5¾
Manningtree	1/7½	1/3½
Mansfield	1/10½	1/5¾
March	1/7½	1/3½
Margate	1/8½	1/4¼
Market Harborough	1/9½	1/5
Matlock	1/9	1/4½
Melton Constable	1/7	1/3
Melton Mowbray	1/9½	1/5
Merthyr	1/10½	1/5¾
Middlesbrough	1/10½	1/5¾
Middleton	1/10½	1/5¾
Middlewich	1/10	1/5¼
Milford Haven	1/9	1/4½
Morecambe	1/10½	1/5¾
Morley	1/10½	1/5¾
Mundesley	1/7½	1/3½
Nantwich	1/10	1/5¼
Nelson	1/10½	1/5¾
Newark-on-Trent	1/10	1/5¼
Newbury	1/8½	1/4½
Newcastle-on-Tyne	1/10½	1/5¾
Newcastle-u.-Lyme	1/10½	1/5¾
New Forest	1/8½	1/4½
Newmarket	1/8½	1/4½
Newport, Mon.	1/10½	1/5¾
Newport Pagnell	1/8½	1/4½
Northampton	1/10½	1/5¾
Norwich	1/10½	1/5¾
Nottingham	1/10½	1/5¾
Nuneaton	1/10½	1/5¾
Oakham	1/9	1/4½
Oldham	1/10½	1/5¾
Ormskirk	1/10½	1/5¾
Oxford	1/10	1/5¼
Oxted	1/9	1/4½
Paignton	1/10	1/5¼
Peterborough	1/10	1/5¼
Plymouth	1/10½	1/5¾
Pontefract	1/10½	1/5¾
Pontypridd	1/10½	1/5¾
Port Talbot	1/10½	1/5¾
Portsmouth	1/10	1/5¼
Preston	1/10½	1/5¾
Pulborough	1/8½	1/4½
Ramsgate	1/8½	1/4½
Reading	1/10	1/5¼
Redditch	1/10	1/5¼
Redhill	1/9	1/4½
Ripon	1/9	1/4½
Rochdale	1/10½	1/5¾
Rochester	1/9½	1/5
Rugby	1/10½	1/5¾
St. Albans	1/10	1/5¼
St. Helens	1/10½	1/5¾
St. Neots	1/8	1/3¾
Saffron Walden	1/7½	1/3½
Salisbury City	1/8	1/3¾
Salisbury Plain	1/9½	1/5
Sawbridgeworth	1/9	1/4½

	Crafts-men.	Lab-ourers.
Saxmundham	1/7	1/3
Scarborough	1/10	1/5¼
Scunthorpe	1/10½	1/5¾
Selby	1/10½	1/5¾
Sevenoaks	1/9	1/4½
Sheerness	1/8½	1/4½
Sheffield	1/10½	1/5¾
Shipley	1/10½	1/5¾
Shoeburyness	1/10	1/5¼
Shoreham	1/9½	1/5
Shrewsbury	1/10	1/5¼
Sittingbourne	1/8½	1/4½
Skegness	1/9½	1/5
Sleaford	1/9	1/4½
Slough	1/9½	1/5
Southampton	1/10	1/5¼
Southend-on-Sea	1/10	1/5¼
Southport	1/10½	1/5¾
South Shields	1/10½	1/5¾
Spalding	1/8½	1/4½
Stafford	1/10	1/5¼
Staines	1/9½	1/5
Stamford	1/9½	1/5
Stevenage	1/9½	1/5
Stockport	1/10½	1/5¾
Stockton-on-Tees	1/10½	1/5¾
Stoke-on-Trent	1/10½	1/5¾
Stourbridge	1/10½	1/5¾
Stourport	1/10	1/5¼
Stowmarket	1/7½	1/3½
Stratford-on-Avon	1/9½	1/5
Stroud	1/9½	1/5
Sunderland	1/10½	1/5¾
Sutton Coldfield	1/10½	1/5¾
Swaffham	1/7	1/3
Swanage	1/8½	1/4¼
Swansea	1/10½	1/5¾
Swindon	1/9	1/4½
Tamworth	1/10	1/5¼
Taunton	1/9	1/4½
Tenterden	1/8½	1/4¼
Thames Haven	1/10½	1/5¾
Thetford	1/8	1/3¾
Thorpe Bay	1/10	1/5¼
Todmorden	1/10½	1/5¾
Tonbridge	1/9	1/4½
Torquay	1/10	1/5¼
Totnes	1/8½	1/4½
Trowbridge	1/7½	1/3½
Truro	1/8	1/3¾
Tunbridge Wells	1/9	1/4½
Uppingham	1/9	1/4½
Uttoxeter	1/9	1/4½
Wakefield	1/10½	1/5¾
Walsall	1/10½	1/5¾
Walsden	1/10½	1/5¾
Walton-on-Naze	1/8½	1/4¼
Ware	1/10	1/5¼
Warminster	1/7½	1/3½
Warrington	1/10½	1/5¾
Warwick	1/10½	1/5¾
Wellington R.D.	1/10	1/5¼
Welwyn	1/9½	1/5
Welwyn Gar. City	1/10½	1/5¾
Wells (Norfolk)	1/7	1/3
West Bromwich	1/10½	1/5¾
Westcliff-on-Sea	1/10	1/5¼
Weston-super-Mare	1/9½	1/5
Weybridge	1/9½	1/5
Weymouth	1/8½	1/4½
Whitby	1/9½	1/5
Whitstable	1/8½	1/4½
Widnes	1/10½	1/5¾
Wigan	1/10½	1/5¾
Wigton	1/9	1/4½
Willington	1/10½	1/5¾
Wilmslow	1/10½	1/5¾
Winchester	1/9	1/4½
Windermere	1/9	1/4½
Windsor	1/9½	1/5
Wisbech	1/8	1/3¾
Witham	1/8½	1/4½
Woking	1/9	1/4½
Wokingham	1/8½	1/4½
Wolverhampton	1/10½	1/5¾
Woodbridge	1/8	1/3¾
Worcester	1/10	1/5¼
Workington	1/9	1/4½
Worksop	1/10	1/5¼
Worthing	1/8½	1/4½
Wrexham	1/10	1/5¼
Wroxham	1/8	1/3¾
Wycombe	1/9½	1/5
Wymondham	1/7½	1/3½
Yeovil	1/9	1/4½
York	1/10½	1/5¾

* Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 2/1.
¶ Tradesman's Labourers, 1/6½. Navvies and General Labourers, 1/6½.
§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE.—Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 406.

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery. At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.

BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for carriage should be obtained as the haulage question is difficult.

	£ s. d.
First Hard Stocks ..... per 1,000	4 5 6
Second Hard Stocks ..... „	3 18 6
Mild Stocks ..... „	3 5 6
Single Rough Stocks ..... „	2 19 6
Third Common Stocks ..... „	2 10 0

2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	King's Cross Station per 1,000 s. d.	To sites in W.C. District per 1,000 s. d.
Pressed	51 9	58 3
Keyed	53 9	60 3
Single Bullnose	71 9	78 3
Rustics	71 9	78 3
Whites	72 3	78 3

	£ s. d.
White Midhurst Best selected (delivered London site)	5 10 0
Best blue Pressed Staffs. (London Stns.)	10 2 0
Do. Bullnose (London Stns.)	10 12 0
Blue Wire Cuts (London Stns.)	8 19 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.		£ s. d.
2½ in. 10 0 0	3 in.	12 0 0

GLAZED BRICKS. (London Stns.)

Best White Ivory and Salt Glazed Stretcher 28 0 0	D'ble Str'tch'rs	36 10 0
	D'ble Headers	33 10 0
	One side&two ends	37 10 0
Headers 27 10 0	Two sides&one end	38 10 0
Quoins, Bullnose and 4½ in. Flats 34 10 0	Splays and Squints	36 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

	s. d.		s. d.
2" per yd. sup.	2 3	3" per yd. sup. ..	2 9
2½" „ „	2 6	4" „ „ ..	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 9	3" per yd. sup. ..	2 6
2½" „ „	2 1	4" „ „ ..	3 4

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 6
Size 12 x 9 x 2½ „	2 9
Size 12 x 9 x 3" „	3 3
Size 12 x 9 x 4" „ „	3 7

Plus 2d. for smooth one side, and 4d. for smooth both sides.

Delivered: Free on site London area.

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

SAND.

Thames Ballast	9	6 per yd.	
Pit Ballast	9	0 „ „	delivered
Pit Sand	11	6 „ „	2 miles
Washed Sand	13	0 „ „	radius
¼ in. Shingle	10	0 „ „	Paddington.
¾ in. Broken Brick	15	6 „ „	
Pan Breeze	9	6 „ „	

CEMENT.

Best British Portland Cement. Standard Specification. delivered London Area.

	£ s. d.
6 ton loads and upwards site ..... per ton	2 9 6
1 ton to 6 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 7 0
"Ferrocrete" Rapid Hardening Cement—	
6 ton loads and upwards site	2 15 6
1 ton to 6 tons site	2 18 6
Alongside Vauxhall in 80 ton lots	2 13 0

Stored in Reserved Bins at works. 1s. 6d. per ton extra.

"Aquacrete" Water Repellent, "Blue Circle" cement, 30s. per ton extra on ordinary "Blue Circle" prices.	
"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement, in 6-ton lots ..	3 19 6
"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.	
"Snowcrete" White Portland Cement	10 5 0
"417" Cement (Ultra Rapid Hardening) Delivered site London Area in 6 ton lots and upwards ..... per ton	3 9 6
Plus packages at current prices.	
Super Cement (Waterproof), *bags extra*	3 19 6

NOTE.—Paper bags will be charged at the rate of 6s. nett per ton. Jute sacks charged 1s. 9d. nett each and 1s. 6d. nett each allowed if returned to works within two weeks, in good condition.

Carriage will be paid by makers on returned empty jute sacks.

	£ s. d.		£ s. d.
Roman cement	8 10 0	Keene's Cement, White	7 0 0
Parian Cement	7 0 0	„ „ Pink	6 10 0

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 0 0	Sirapite, Coarse ..	4 5 6
„ White ..	4 7 6	„ Finish ..	4 13 6
Pioneer	4 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	3 7 6	Grey Stone Lime	2 17 6
		Chalk Lime	2 17 6
Granite Chippings	1 15 0	Hair per cwt. ..	3 5 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12s. 6d. in 6-ton lots at railway depot.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 3 3½

BEER STONE—RANDOM BLOCK—

Free on rail at Seaton Station.. per ft cube	2 3
Delivered free on rail Nine Elms, S.R. „	3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.	

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., ...per ft. cube	4 7
Do. do. delivered on road waggons as above stations ..... per ft. cube	4 7
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.	

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) .....per ft. super	5 6
6 in. rubbed two sides, ditto .... „	6 3
3 in. sawn two sides slabs (random sizes) ..... „	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... „	1 8½
1½ in. to 2 in. ditto ..... „	1 4½

HARD YORK—

Delivered at any Goods Station, London.	
Scrappled random blocks .....per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) .....per ft.super	5 7½
6 in. rubbed two sides, ditto .... „	6 9
4 in. sawn two sides slabs (random sizes) ..... „	3 5
3 in. ditto ditto ..... „	2 8
2 in. self-faced random flags.....per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d. Small section cills and copings, 11s.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	s. d.		Foot cube. £ s. d.
Dry English Wainscot Billets..	16 0	to	0 18 0
Dry Slavonian Billet Wainscot ..	17 0	to	1 0 0
Dry Cuba Mahogany logs	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak			0 12 6
Jap. Figured Oak			0 13 0
Jap. Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue ..... per cwt.			5 0 0
Liquid glue .....per gallon			1 2 0

Having Secured the Contract—what about the Steel Scaffolding?

TUBULAR

—S & C—

SCAFFOLDING

For the lowest Prices apply to the Oldest Firm in the Scaffolding Trade.

STEPHENS & CARTER LTD.

The British Steel Scaffolding Co.

731-761, HARROW RD., N.W.10.

Telephone No. Ladbroke 1191 (6 lines).

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE

	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes, 2 in. by 3 in. to 4 in. by 11 in.	43 10 0	53 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	67 10 0

	Per square. s. d.
1 in. plain edge flooring	53 0
1¼ in. ditto	66 6
1 in. tongued and grooved	53 0
1¼ in. ditto	66 6

MATCHING.

	Per square. s. d.
¾ in.	37 6
¼ in.	42 0
1 in.	55 0

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons..... Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	£5 6 6
Ditto hand-made ditto	6 7 6
Ornamental ditto	6 14 0
Hip and valley tiles (per dozen) { Hand-made	0 12 9
{ Machine-made	0 12 3

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION PER TON—

	£ s. d.
R.S. Joists, cut and fitted	£23 10 0
Plain Compound Girders	26 0 0
„ „ Stanchions	28 10 0
In Roof Work	33 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	23 0 0	⅛ in. to ½ in...	21 10 0
¾ in.	22 0 0	⅝ in. to 2½ in...	21 0 0

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½ % gross.

10/17

	Tubes. ⅛"/⅜" %	Tubulars. ¼"/⅜" %	and 19/24 %	Flanges. ¼"/2" %	2½"/6" %
Light weight ..	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv.lightweight	40½	—	38½	39½	48½
Galv.heavyweight	31	31	31	29½	41

Tubes and tubulars sizes ⅛"/¼" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/5	1/1½	4½d.
3½ in.	1/6½	1/3½	4½d.
4 in.	1/6½	1/5	6½d.
4½ in.	1/7½	1/7½	8d.
5 in.	1/11	1/9	8½d.

O.G. GUTTERS.

3 in.	1/9½	1/6½	4½d.
3½ in.	2/0½	1/6½	6½d.
4 in.	2/0½	1/7½	7½d.
4½ in.	2/1½	1/10½	8½d.
5 in.	2/7½	2/1½	9½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe	Bends. Stock angles.	Branches.
2 in.	2/1½	1/5	2/1
2½ in.	2/2½	1/7½	2/5½
3 in.	2/7½	2/0½	3/0½
3½ in.	3/1	2/5	3/6
4 in.	3/7	2/10½	4/2½

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent. 2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	3/6½	2/5½	3/0½
2½ in.	4/2½	2/9	3/9½
3 in.	4/6½	3/0½	4/6
3½ in.	4/7½	3/9½	5/3
4 in.	5/0½	4/2½	6/0½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 fts. cwt. qr. lbs.	5/5	6/3	9/11
4 in. 1 1 20.....	7/11	7/1	12/6
5 in. 1 2 22.....	9/7	12/9	19/3
6 in. 2 0 6	11/5	14/8	25/6

Gaskin, 75/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(*contd.*)

	Per ton basis in London. £ s. d.
IRON.—Staffordshire Crown, Merchant quality	18 7 6
IRON.—Staffordshire Marked Bars	19 7 6
Mild Steel Bars	19 15 0
Mild Steel Hoops	21 10 0
	Ex Merchant's Stock, per ton (two-ton lots).
Soft Steel Sheets, C.R. and C.A.—	
20 gauge	24 17 6
24 gauge	25 2 6
26 gauge	25 17 6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.	
20 gauge	27 0 0
24 gauge	27 10 0
26 gauge	28 15 0
Galvanised Flat Sheets, C.R. and C.A.—	
20 gauge	28 10 0
24 gauge	29 0 0
26 gauge	30 5 0
	Per ton. £ s. d.
Cut Nails, 3 in. and up	28 10 0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

PLUMBERS' BRASS WORK.

Delivered in London.
To pass Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.
½ in. ¾ in.
37/- 58/6 per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.
½ in. ¾ in.
52/3 72/- per doz.

S.D. STOP COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/-	59/-	97/-	228/-	324/-	540/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
53/-	84/-	136/-	252/-	405/-	664/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
9/11	11/-	17/6	29/3	49/6	71/- per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
45/-	73/-	120/-	210/-	297/- per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
11/9	14/5	21/6	37/9	54/-	59/6 per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/9	13/6	25/-	37/-	46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼ in.	1½ in.	2 in.	3 in.
8 lb. Lead P. . .	26/-	34/8	48/3	84/- per doz.
8 lb. Lead S. . .	32/6	41/6	60/-	108/- ,,

SOLDER.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	35 10 0
Pipe in coils	35 0 0
Soil pipe	40 10 0
Compo pipe	42 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills . . . . . per ton } £18 0 0.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in drums	per gallon	0 5 4
Boiled Linseed Oil, in drums	,,	0 5 7
Turpentine, in drums (10 gals.)	,,	0 7 5
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks).		63 0 0
Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.		
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots,	per ton delivered	87 0 0
Red Lead, Dry (packages extra)	per ton	54 0 0
Best Linseed Oil Putty (1 ton lots)	per cwt.	1 1 0
Size. XD quality	f'kn.	0 4 3

Turpentine substitute can be obtained and prices vary according to the quality from 3/- gallon upwards.

		£ s. d.
SNOWCEM CEMENT PAINT	per cwt.	2 16 0
"M.C. CAMOUFLAGE PAINT	,,	2 16 0.

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 16 0
Fine do.	,,	0 18 0
Fine Copal	,,	1 0 0
Pale Copal	,,	1 2 0
Pale Opal Carriage	,,	1 6 0
Best do. do.	,,	1 14 0
Floor Varnish	Inside	1 0 0
Fine Pale Paper	,,	1 0 0
Fine Copal Cabinet	,,	1 4 0
Fine Copal Flatting	,,	1 2 0
Hard Drying Oak	,,	1 0 0
Fine Hard Drying Oak	,,	1 1 6
Fine Copal Varnish	,,	1 2 6
Pale do.	,,	1 14 0
Best do.	,,	1 4 6
Best Japan Gold Size	,,	1 14 6
Best Black Japan		0 12 0
Oak and Mahogany Stain (water)		0 14 0
Brunswick Black		0 9 6
Berlin Black		0 16 0
Knotting (patent)		0 17 0
French and Brush Polish		0 14 0
Liquid Dryers in Terebene		0 11 0
Cuirass Black Enamel		0 9 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY (O.Q.) AND SELECTED GLAZING QUALITY (S.Q.).
PER FOOT SUPER.

In sizes not exceeding 80 in. long or 48 in. wide or 110 united inches.

	O.Q.	S.Q.
18 oz. in 300 ft. cases	2½d.	2¾d.
24 oz. ,, 200 ft. ,,	3½d.	4d.
26 oz. ,, 200 ft. ,,	3¾d.	4¼d.
32 oz. ,, 200 ft. ,,	5¼d.	6¼d.
24 oz. ,, 300 ft. ,,	3¾d.	3¾d.
26 oz. ,, 300 ft. ,,	3¾d.	4¼d.
32 oz. ,, 300 ft. ,,	5¼d.	6¼d.
24 oz. Obscured Sheet		6½d.
Fluted, 21 oz.		9d.
Enamelled, 18 oz.		5½d.
,, 24 oz.		6¾d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft.
Rolled plate, ¼ in.	5¾d.
Rough cast double rolled, ⅛ in.	6¼d.
Rough cast double rolled, ¼ in.	6¾d.
Figured rolled, and Cathedral, white	6¾d.
Figured rolled and Cathedral, tinted	9½d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calorex" Sheet, 21 oz.	2 6
,, ,, 32 oz.	4 0
,, Cast, ¼ in. thick	0 10
,, ,, ⅛ in. thick	1 0
,, ,, ¼ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
,, ,, ,, ⅛ in. thick	1 0
,, ,, ,, ¼ in. thick	1 2

"VITA" GLASS.

	Per ft. s. d.
"Vita" Plate Glass, about ⅛ in. thick	
To 7 ft. super	5 0
Over 7 ft. super	7 6
"Vita" Sheet Glass, about 18/20 oz.	2 0
Cathedral "Vita" Glass :	
¼ in. thickness	2 0
⅛ in. ,,	3 0
⅛ in. Georgian Wired "Vita" Glass	3 6

GLASS BRICKS.

	s. d.	
P.B. 1—8 in. × 4¾ in. × 3¾ in.	2 3	each nett
P.B. 2—5¾ in. × 5¾ in. × 3¾ in.	2 0	,,
P.B. 3—7¾ in. × 7¾ in. × 3¾ in.	3 0	,,
P.B.32—7¾ in. × 7¾ in. × 3¾ in.	3 0	,,
Radiused Corner Bricks to match up with—		
P.B. 2	3 9	each nett
P.B. 3	5 0	,,
P.B.32	5 0	,,

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from October 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A1	A2	A3	B	B1
Craftsmen	1/11½	1/11	1/10½	1/10	1/9½	1/9
Labourers	1/6	1/5¾	1/5¼	1/5	1/4½	1/4¼

Aberdeen	A	Dumfriesshire	A2	Inverness	*	Perthshire	A2
Ayrshire	A	Dundee	A	Inverurie	A1	Peterhead	A1
Banff	B	Dunoon	A	Kincardineshire	A2	Renfrewshire	A
Berwickshire	A2	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A2
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A2
Doune	A	Forfarshire	A2	Moray and Nairn	B	Stewartry	A2
Dunblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A2	Stornoway	A2
Dumfries	A1	Hamilton	A	Perth	A	Tayport	A
						West Lothian	A

* This town has its own rates : Masons, 1/8½ ; Carpenters, 1/8½ ; Slaters, 1/8½ ; Plumbers, 1/9 ; Plasterers, 1/9½, but 1/10 is paid owing to the scarcity at present ; Painters, 1/8½ and Labourers, 1/4

The information given in this table is copyright. Rates of wages in England and Wales are given on page 404.

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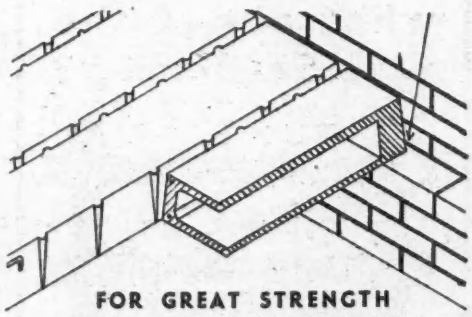

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THE SCOTTISH BUILDER

NEW BUILDINGS

BUCKHAVEN AND METHIL.—BUILDING.—T.C. received permission from Ministry to erect British restaurant.

DUMBARTONSHIRE.—FEEDING CENTRE.—C.C. to provide feeding centre at Clyde-st. school, to plans by Joseph Weekes, 18, Park-circus, Kelvingrove, Glasgow.

DUNFERMLINE. — RECONSTRUCTION. — Dean of Guild Court approved plans for reconstruction of premises at High-st., for adaptation as communal restaurant.

JORDANHILL BY HOLYTOWN.—RECONSTRUCTION.—Plans have been prepared by James Davidson and Son, 6, Academy-st., Coatbridge, for scheme of reconstruction and additions.

KIRKMUIRHILL. — ALTERATIONS.—Plans have been prepared for alterations and additions to Nether Berkwood Lodge, the architect being William Tennant, County Buildings, Beckford-st., Hamilton.

NEW BUILDINGS IN LONDON

LAMBETH.—LAVATORY ACCOMMODATION.—The B.C. has purchased a site for a public convenience at 114-116, Westminster Bridge-rd.

RUSHEY GREEN.—TEMPORARY BUILDINGS.—Messrs. Frank Matcham and Co., 62, Oxford-st., W.1, have prepared plans (approved by Lewisham B.C.) for temporary dressing-rooms at Lewisham Hippodrome, Rushey Green.

WALTHAMSTOW. — EXTENSIONS.—Plans submitted by Messrs. C. P. Whiteley and Son, architects and surveyors, 70, Queen Victoria-st., E.C.4, for a store and extensions to a factory in Walthamstow-av., have been approved by the T.C.

WOOD GREEN. — RESTAURANTS.—The T.C. is to establish a British restaurant at Crescent-rd. (for which the £942 tender of W. R. Cruse has been accepted); another at Shropshire Hall (for which tenders are now in); and is considering a third at Myddleton-rd.

CURRENT AND PROPOSED NEW BUILDINGS

Barrow-in-Furness.—T.C. to provide three British restaurants. Plans by F. L. Wooldridge, Boro' Sur.

Bath.—T.C. to execute £515 alterations at hospital for pathological laboratory, and £399 alterations to maternity department.—T.C. to erect two concrete-lined static water tanks, at £970, and six steel tanks, at £360.

Boston.—T.C. in conjunction with R.D.C. propose additional mortuary accommodation at P.A.C. Institution.

Brighouse.—H. A. Sneezum, Boro' Sur., has prepared plans for conversion of New-rd. Sunday-school, Ristrick, into British restaurant, at £3,250.

Caernarvonshire. — Standing Joint Committee of C.C. propose improvements to three police stations.

Castleford.—Airedale Collieries, Ltd., propose canteen at Wheldale Colliery pit-head.

Chester-le-Street.—Canteens to be provided by Lambton Hetton and Joicey Collieries, Ltd.

Conisborough.—U.D.C. to adapt premises in Church-st. for British restaurant. Plans by H. Thirlwall, Sur.

Consett. — Consett Iron Co., Ltd., are to erect canteens at collieries.

Coventry.—Board of Management of Coventry and Warwickshire Hospital submitted plans to M.H. for new block at Keresley.

Crook and Willington.—U.D.C. to apply for M.H. consent to borrow £700 for purchase of land in connection with sewage scheme.

Doncaster.—R.D.C. propose communal feeding centres in various districts. Plans by J. A. Williams, Sur.

Durham. — Charlaw and Sacriston Collieries, Ltd., Sacriston, Co. Durham, to build canteens.

Easington. — Eastington Colliery Co. to erect canteens at collieries.

Halesowen. — T.C. to adapt premises at Cradley and Hill and Cakemore for British restaurants. Plans by G. Spurr, Boro' Sur.

Haltemprice.—U.D.C. propose adaptation of premises for British restaurants. Plans by C. R. Butcher, Sur., Council Offices, Anlaby.

Hendon.—T.C. accepted £750 tender of S. A. Pattey, Ltd., for seven shelters at schools.

Hexham-on-Tyne.—U.D.C. set up British Restaurant. Plans by W. G. Langdale.

Hinckley.—U.D.C. to erect shower-baths at fire station.

Hindley.—U.D.C. propose conversion of St. Paul's Sunday-schools into British Restaurant, at £1,727. Plans by O. P. Abbott, Sur.

Hyde. — E.C. propose: Conversion of Union-st. Sunday-schools for central kitchen; school canteens in elementary schools; and communal feeding centres. Plans by T. H. Higson, Boro' Sur.

Keighley.—T.C. approved canteen for G. Hattersley and Sons, Ltd.

Lichfield.—T.C. approved: Extension for J. Harris (Coventry), Ltd.—C.E. Diocesan Board have acquired site for erection of a church. Capt. E. C. Lavender, Waterloo-chmbrs., Waterloo-st., Wolverhampton, is Consulting Architect to the Board.

Manchester. — T.C. to replace glass at Temple Buildings, at £375.—Public Health Committee to erect temporary war time nurseries at North-rd., Clayton, plans by G. Noel Hill (F.), City Architect; and Stancliffe-rd., Wythenshawe.—River Medlock wall, Madder-st., Ardwick, to be reconstructed.—Structural additions to 19 works approved.

Middlesbrough. — T.C. to receive grant of £1,500 from Ministry of Home Security towards renewal of the roof at Marton Hall, at £5,000. Plans by C. Gorman, Boro' Eng.—Lionweld Flooring and Stairway Co. to carry out additions.

Morley.—T.C. propose ambulance garage.

Newcastle-on-Tyne.—City Council to carry out repairs to Phœnix Mills to plans by J. F. C. Solomon, City Estate and Property Sur.

Newcastle-on-Tyne.—Board of Management of Royal Victoria Infirmary has prepared plans for extensions to buildings.

Normanton.—Pope and Pearson, Ltd., West Riding Collieries, to erect two canteens at pit-head.

Oldham.—T.C. propose day nursery at Limeside recreation ground. Plans by G. E. Hardy, Boro' Sur.

Orrell.—U.D.C. propose waterworks. Plans by A. W. Charity, Sur.

Prescot.—U.D.C. approved nursery at Oliver Lyme-rd for Health Committee.

Rochdale.—T.C. authorised Boro' Sur. to prepare plans for conversion of premises at Castleton into community feeding centre.

Runcorn.—U.D.C. to adapt premises for British Restaurant. Plans by A. B. Cunningham, Sur.—U.D.C. approved plans for repairs, alterations and additional garage accommodation at Heath House, at £1,390.

Runcorn.—R.D.C. propose external painting and decoration of 94 houses. A. J. King is Sur.

St. Pancras. — B.C. to adapt premises in Georgina-st. as rest and recreation rooms, at £200.

Seaham Harbour.—Canteens to be built by Londonderry Collieries, Ltd.

Sedgefield.—R.D.C. to set up British Restaurants in various areas. Plans by J. Tarren, Sur.

Sedgley.—U.D.C. to adapt domestic science centre at Gornal for community feeding centre.—U.D.C. propose alterations to schools for canteens, at £1,840. Plans by A. E. Dicks, Sur.

Shropshire.—E.C. propose pre-fabricated hut, at £500, also adaptation of "The Armoury," Market Drayton, at £300, for youth centres.

Shropshire.—E.C. propose kitchen at Senior Council school, Wrockwardine Wood, at £500, also adaptation of premises at Wellington Girls' High School for dining-hall and canteen. Plans by A. G. Chant (F.), County Architect, 5, Belmont, Shrewsbury.

South Shields. — E.C. to establish central kitchen at Mowbray-rd. school, at £4,800.

Southport. — T.C. propose adaptation of premises at Hawkshead-rd for British restaurant. Plans by H. L. Bunting, Boro' Eng.

Staffordshire.—E.C. have acquired site at Salisbury-st., Darlaston, for school. Plans by G. C. Lowbridge, Education Architect.—E.C. propose repairs and redecoration of the Mount-la. school, Market Drayton, at £230.

Swinton and Pendlebury.—T.C. approved: Canteen for Matthews and Yates, Ltd.; extensions to canteen and welfare centre for Acme Spinning Co., Ltd.

Talysarn (Caernarvonshire). — Members of the Aelwyd Society propose external repairs, internal painting and decoration and heating of assembly rooms.

Thurnscoe.—Board of Hickleton Main Colliery propose canteen at pit-head.

Valley (Anglesey).—R.D.C. propose scheme for improvement of water supplies. Plans by H. Adams, Consulting Eng.

Wakefield.—T.C. propose conversion of Oxford-st. Methodist schools into British restaurant. Plans by S. G. Wardley, City Sur.

Warrington. — E. H. Allsford (A.), Chartered Architect, Martins Bank-chbrs., Bridge-st., prepared plans for 108 houses and 108 flats on site off Warrington-rd., Culcheth.

Wath-on-Dearne.—U.D.C. propose conversion of premises for British Restaurant. Plans by W. E. Haigh, Sur.

Wembley.—Ten flooding relief schemes to cost £27,000 are to be executed by the T.C., which has also under consideration further six schemes estimated to cost £19,900.—T.C. passed plans for additions to four factories.

Whitley Bay.—W. Williams and Co. propose workshop.

Wigston. — U.D.C. propose to adapt premises for British restaurants. Plans by G. F. Stacey, Sur.

Wolverhampton. — E.C. propose huts at Three Tuns playing fields, also adaptation of premises at Bushbury-la., for school clinic.

Worcestershire.—E.C. propose improvements to Fairfield County school. Plans by H. Rowe and Son, County Architects, 38, Foregate-st., Worcester.

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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Amble.—Small brick building to house chlorinating plant, for U.D.C. Wm. Burton, Sur. : *R. Carse & Son, Ltd., Amble, £90.

Arnold.—For adaptation of the Ebenezer Methodist Church schoolroom at Worrall-av. as British Restaurant, for U.D.C. H. M. Etherington, Eng. and Sur. :—

Wm. Eddyshaw	£475
J. Herring & Sons, Ltd.	380
A. Waite & Son	368
T. Sturton	361
*H. Jew & Sons, Ltd.	355

(All of Arnold.)

Ashton-under-Lyne.—Alterations to premises, for Weights and Measures Office, for T.C. : *Ridyard & Sons, Ltd., Railway Saw Mills, Ashton-under-Lyne.

Barrow-in-Furness.—Switch house and substation, for E.C. H. R. Burnett, Boro. Electrical Eng. : *Rainey Bros., Ltd., Ironworks-rd., Barrow-in-Furness.

Bath.—For (a) painting at Oldfield senior schools; (b) alterations at Weymouth House senior school; and (c) redecorating at administration block, Isolation Hospital, for T.C. : (a) *F. J. Amery & Sons, Ltd., £310; (b) *F. J. Amery & Sons, Ltd., £64; (c) *R. Best & Son, £85.

Bath.—For repairing 9 houses at Widcombe, for T.C. : *C. H. Beazer, £1,540.

Bessbrook (Co. Armagh).—Construction of new water supply system, using cast-iron pipes, for Newry (No. 2) R.D.C. : *Murray & M'Cartan, Lurgan, £34,818.

Connah's Quay.—Conversion of premises into British Restaurant, for U.D.C. H. Jones, Sur. : *Butler Bros., King-st., Shotton, Connah's Quay, Flints, £758.

Dundee.—(a) Reinforced concrete piling and foundations, (b) steelwork, for T.C. D. H. Bishop, General Manager and Eng., Head Office, Dudhope Cres.-rd., Dundee: (a) *Dundee Contracting Co., Dundee, £656; (b) *David Keay Leslie, Ltd., Dundee, £289.

Ennerdale (Cumberland).—Laying water-mains to 200 houses, for R.D.C. : *Border Engineering Contractors, Ltd., £850.

Galway.—Erection of maternity block at new general hospital, for the County B.H. T. J. Cullen, Dublin, architect: *T. & W. Bolger, Dublin, £39,966.

Glasgow.—Reconstruction and additions to Bankhead school. Mr. J. MacNab, 129, Bath-street, Blythswood, Glasgow, architect: Excavation, brick and mason work, etc., *J. Crawford & Son, Ltd., Partick; joinery, carpentry and ironmongery work, etc., *T. Henderson & Son, Ltd., Glasgow; plaster and lathing work, etc., *A. MacKellar, Glasgow; electricity fittings and installations, *Glasgow Corporation Direct Labour Electricity De-

partment; heating installation and engineering, etc., *J. L. Sanders & Co., Ltd., Glasgow.

Leeds.—Demolition of property, for T.C. : *W. Field, Chapeltown, Leeds, £343; *A. Rudge, 20, Beancroft-st., Castleford, £363.

Lewisham.—For shelter accommodation at two youth clubs, for B.C. :—

Walker, Clinging & Co.	£1,432
Thomas & Edge, Ltd.	1,414
Henry Kent, Ltd.	1,258
Hobden & Holman, Ltd., ...	1,220
T. W. Driver, Ltd....	980
Campbell & McGill, Ltd.	915
*Wates, Ltd.	905

Lewisham.—For erection of water-borne lavatory accommodation at public shelter, for B.C. (A, using new bricks; B, using second-hand bricks; and C, using salvaged bricks, cleaned and collected by contractor) :—

	A	B	C
Thomas & Edge	£962	£930	£890
Henry Kent, Ltd. ...	897	872	840
Campbell & McGill, Ltd.	725	—	725
Wates, Ltd.	687	—	—
*T. W. Driver, Ltd. ...	658	658	658

¶London (Air Ministry).—Contracts placed to the value of £500 or over for the week ended October 18 :—

Structural steelwork : Peter Lind & Co., Ltd., London; Arup & Arup, Ltd., London.

Civil engineering work : Yorkshire Hennibique Constrn. Co., Ltd., Leeds, 4.

Hutting and general maintenance work : H. C. Janes & Co., Ltd., Luton; J. Thorn & Sons, Ltd., Bexley Heath.

Building work : Bosworth & Wakeford, Ltd., Daventry.

Air filtration work : Mellor, Bromley & Co., Ltd., Leicester.

General maintenance work : G. E. Wallis & Sons, Truro; Peter Conlon, Manchester; Arthur Fenton, Manchester; E. E. Coleman, Ltd., Manchester; J. F. Booth & Son, Banbury; Hosking & Sons, Raleigh; W. H. Adams & Sons, Ltd., Rugby; Ernest Coleman, Ltd., East Kirby.

¶London (War Dept.).—Following are works contracts placed by War Department at October-23 :—

Yorkshire : *Miscellaneous work*, J. Jaram & Son, 20a, Gladstone-st., Scarborough; and Pickles Bros. (Builders), Ltd., Mile Thorn, Gibbett-st., Halifax. *Hutting (erection)*, W. A. King & Sons, Ltd., Westbourne-gr., North Ormesby, Middlesbrough.

Nottinghamshire : *Building work*, H. Rouse & Sons, 30, High-st., Mansfield Woodhouse, Notts. *Miscellaneous work*, Williams & Williams, Ltd., Reliance Works, Chester.

Leicestershire : *Hutting (erection), etc.*, G. Calverley & Sons, 1, Northampton-st., Leicester.

Suffolk and Essex : *Miscellaneous works*, Tillett Bros., 41, Cobbold-rd., Felixstowe, Suffolk.

Oxfordshire : *Miscellaneous works*, A. J. Sadler, Ivy Cottage, Chesterton, nr. Bicester.

Gloucestershire : *Hutting (erection)*, Gee, Walker & Slater, Ltd., 57, Winchcombe-st., Cheltenham.

Monmouthshire : *Hutting (erection)*, Foster & Hill, Hatherleigh Lodge, Brecon-rd., Abergavenny, Monmouthshire.

Berkshire : *Miscellaneous works*, J. E. Harper & Son, Ltd., 76/82, Lombard-st., Birmingham; and E. C. Hughes, Albion Wks., Wokingham, Berkshire.

Kent : *Miscellaneous work*, Shave Bros., "Corbiere," Maidstone-rd., Chatham, Kent; and F. G. Love & Son, Rookery-dr., Old Hill, Chislehurst, Kent.

Sussex : *Miscellaneous work*, Bristowes Tarvia, Ltd., Queensberry House, 18, Queensberry-pl., S.W.7.

Hampshire : *Miscellaneous work*, R. Holford & Co., Ltd., Walnut Tree-close, Guildford, Surrey. *Hutting (erection)*, A. J. Dunning & Sons, Weyhill, Hants.

Wiltshire : *Miscellaneous works*, R. W. Butcher & Son, 39, George-st., Warminster, Wiltshire.

Somerset : *Hutting (erection)*, Stansell & Son (Taunton), Ltd., Billet-st., Taunton.

Dorset : *Building work*, Mears Bros. (Contractors), Ltd., Bryanston-st., Blandford.

Devon : *Hutting (erection)*, W. F. Rees, Ltd., Hinton-bdgs., Bournemouth.

Co. Antrim : *Hutting (erection)*, H. Girvan & Sons, Station-rd., Larne, Co. Antrim.

Co. Londonderry : *Hutting (erection) and Miscellaneous works* (2 contracts). P. J. Walls & Bros., Saintfield-rd., Belfast.

Manchester.—Canteen and staircase to factory. H. S. Fairhurst & Son (FF.), Chancery-chbrs., 55, Brown-st., architects : *L. Brown & Sons, Ltd., Wilmslow, nr. Manchester.

Middlesbrough.—Street works, for T.C.—(a) Preen-dr., (b) Bk. Nesham-rd., Wembley-st. : (a) *W. F. Richardson, The Mount, Ormesby, Middlesbrough, £829; (b) *Bituminous Road Products, Ltd., Middlesbrough, £146.

Middlesbrough.—Repairs to seven houses, for T.C. : *Pilkington Construction Co., Ltd., Middlesbrough, £728.

Morpeth.—Painting 219 houses, for R.D.C. T. T. Watson, San. Inspector : *R. W. Mackenzie & Sons, Ltd., "Oakgarth," Seahouses, Northumberland, £668 14s. 8d.

St. Marylebone.—Repairs to properties, for B.C. : *Rodec, Ltd., 106, George-st., W.1, £877; *A. W. Yeomans, 41/42, Upper Berkeley-st., W.1, £359.

St. Pancras.—Repairs to property, for B.C. : *J. W. Falkner & Sons.

Southgate.—Contracts for permanent repairs to war-damaged houses have been placed by T.C., as follows : James Estates, Ltd. (8 houses), £1,049; Peake Estates, Ltd. (1), £167; H. Hobbs Wilson (23), £1,419; C. Barnard (1), £98; Tarran Industries, Ltd. (3), £505; A. E. Pearce (5), £638; C. J. Gillham & Son (5), £430; and A. Scott & Sons, £261.

The following contractors have undertaken to do work of first-aid repairs to war-damaged property, for T.C., on M.H.S. Prime Cost Contract form : W. D. Bartlett & Sons; G. G. Hicks; James Stewart & Sons (Tottenham), Ltd.; Kent and Sussex, Contractors, Ltd.; and W. J. Banks.

Contract for steel building at Bramley Sports Ground for treatment of gas-contaminated food placed by T.C. with Cakebread, Robey & Co., Ltd., at £266.

Prime cost contract for adaptation of Palmadium British Restaurant placed by T.C. with C. J. Newby Brothers, Ltd.

Ulverston.—For repairs to four houses, for R.D.C. J. Walker, Eng. and Sur. : *W. Drinkall, Allithwaite.

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